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BRIEFLY TOLD.

MR. LITTLE'S LITTLE CRITICISM.—"Dear JOURNAL: Some time ago there appeared in the *Journal of Gas Lighting*, London, England, a communication signed by Archibald G. B. Little, entitled 'Western Ways in American Gas Business.' It was sent from St. Louis, U. S., in which city presumably the author had just arrived from England. Being located in the territory of the 'Land of Promise,' it seems quite appropriate that the writer should put before your readers a few words of comment on the aforesaid article. Our worthy visitor has, judging from the substance of his composition, mistitled the same completely; for it has mainly, in fact only, to do with gas benches, and not 'American Gas Business.' The description, more an arraignment of his American gas benches, refers only to benches of horizontal sizes and inclined 4's. The drawings accompanying his text are by no means even fair representations of what engineers have designed in this part of the States. The designs can be applied to some antiquated forms of small gas benches, but never to modern installations such as have been built within the past 10 years. To make such remarks as 'No steam is used in the furnace.' * * * 'No overflow pipe on the ashpan.' * * * 'Through retorts are very much disliked,' are all true exposition and evidence of Mr. Little's total ignorance of our present designs. Further, his statement, 'The details I am about to give show clearly the lines on which engineers are going to work,' is too absurd to be discussed; but we hope our English visitor will stay long enough to enable him to become better acquainted with our methods of construction. As regards the selling price of gas at 4s. 2d. per 1,000 cubic feet, we must remind him that many of our Western Companies are meeting this very price readily, some even at less, and with profit to the shareholders. As regards price regulation, 'No hindrance whatever on the part of the licensing authority,' we may call Mr. Little's attention to our various public utility bills and price regulation committees, not forgetting the many city gas inspectors, etc. Our friend further states that the life of our benches in this locality is limited to a period of 2 years; but this statement is a most radical one, for no gas manager would ever place an order with a gas bench builder unless the latter guaranteed the material to hold for at least 3 years. There are many gas companies here who have had benches in continuous operation for over 45 months, and in no instance less than 30 months. In addition we may mention here there are nearly 400 benches of 9's in operation in this locality, and with ultimate success. In England, of late, benches of 8's are meeting with more favor, since the lower middle retort never met with success. We are never obliged to omit the lower retort for fear of burning it down. Our fireclay is better than that of England, for the analyses, by Prof. Hecht and other authorities, have so proven. The best Glenboig and Stourbridge fireclays are high in silica, and fuse at Seger cone, 30 to 31. The best fireclays in this territory hold up at cone 33, and our material is accordingly also made to meet other mechanical and physical conditions such as are encountered in a retort furnace. In Germany benches of 9's are constructed in most of the larger plants, since they also have been able to operate the lower middle retort with success, and German firms have buit some benches of 9's in England, naturally using their own fireclay material in all instances. The American gas engineers have not followed their English cousins to any extent in the designing of gas benches, and probably never will. We do not approve of building our settings and recuperators with 9-inch firebrick. This has been tried and abandoned, for we have come to the conclusion arrived at by metallurgists, glass furnace men, etc., that it is very essential to overcome the many joints in construction which are cause for short-circuiting, sagging and other serious trouble. Therefore, we adopt larger sized blocks instead of 9-inch brick. Regarding extra cost, we are always ready to sacrifice price to better and more successful construction; the latter always meets with the ready approval of every gas manager. To state that 'No research has been made into past efforts on the part of foreign builders of inclines' is another proof of Mr. Little's deplorable ignorance, for thousands of dollars have been spent by gas companies and builders of benches to examine foreign designs and methods of construction. Let him look into the 'Proceedings' of the various gas associations. American engineers are at the present time in Europe studying the new coal carbonizing apparatus—the vertical retort bench. A number of large installations of inclines are in successful

LIBRARY OF CONGRESS NOV 26 1907 SMITHSONIAN DEPOSIT.

operation in this country to-day, but a close examination thereof will reveal to our friend that very little of English design has been followed. We are loath to follow the German engineers more in the details, embodying our own ideas to better the methods as adopted. Mr. Archibald S. B. Little is to be pitied for making so many hasty and foolish statements before examining the subject more thoroughly. He has taken the design of a small and primitive bench and held the same up to us as being the exponent of our knowledge in gas furnace construction. He is to be compared with a person who spent one day in New York and then told his friends all about the great city. Too bad that that gentleman did not arrive here sooner to aid us in our troubles in this line and help us 'To overcome the many adverse conditions which here now exist, and that would otherwise cripple the industry.' *Dormiumus in somno pacis!*—Truly yours, E. L. R."

"St. Louis, Mo., November, 1907."

How They Do it in Baltimore.—"On Friday evening, November 15th, several hundred employees of the Consolidated Gas, Electric Light and Power Company, of Baltimore, met in the Company's building, Lexington and Liberty streets, to discuss the question of the 'Obligations Imposed by the Possession of a Franchise,' which was the title of an address delivered last month before the American Gas Institute by Mr. Charles H. Dickey, a Director of the Consolidated Company, and this address was read to the assemblage by Mr. Herbert K. Dodson. Then Secretary Charles M. Cohn, Mr. Charles B. Reeves, Mr. Ernest Carey, Mr. C. McClure Fisher, Mr. Thomas S. Anderson, Mr. W. Harry Cassell and Mr. Williamson Carr discussed the ideas advanced. 'A corporation, being a fictitious person, must of necessity act through its agents,' said Mr. Reeves. 'When a corporation is formed, certain persons are chosen as its officers, with accompanying duties to perform; and, in turn, officers choose employees or agents having their part to play in the corporate activities. An act of an agent in the natural course of his employment is an act of the corporation, and the impression made upon the public, or upon an individual by an agent, is an impression made by the corporation. The agents of a public service corporation should keep this in mind in their dealings with the public. The keynote of Mr. Dickey's paper is that the public must be treated justly. This applies to the general conduct of the employees or agents in their dealings with the public, as well as to those whose duty it is to shape the policy of the Company.' Secretary Cohn discussed the legal and moral aspects of the paper, and said, in part: 'The old form of charters granted by the State of Maryland reads that the charters were granted as well for the public good as for the private interest of the incorporators. This clause is not contained in the charters now granted, but the spirit of this condition is more important to be observed to-day than ever before in the history of the people. Corporations have become more numerous, more important, and of greater service to the people. Prior to the year 1800, the State of Maryland had granted only 11 charters, and all of these were to corporations of more or less public utility. The public service, otherwise called public utility, quasi-public corporations, is really the oldest form of corporation in the State. As late as 1850 we find, in a leading book on the subject of corporations, only 50 lines devoted to business corporations. In a recent work there is devoted to the subject of business corporations alone, 7,000 pages. It is important to bear in mind that the foundation of the rights and duties of a corporation is essentially the same as that of individuals. A corporation is a moral person, susceptible of obligations and laws, and the reason for this is plain. A corporation is merely a collection of individuals, each of whom carries with him into the service of the Company the same binding law of morality and religion which ought to control his conduct in private life. A corporation has a corporate will, capable and free to do right and avoid wrong. No shield or cloak ever invented by man, whether it be in the form of a corporation or not, can operate to enable him to evade the full moral responsibility of his acts. The influence of the employee coming in direct contact with the public is far reaching. Business tact, while partly the gift of nature, is yet capable of being cultivated and developed by observation and experience. The public should be always impressed by the employee of the desire of the company to make every reasonable effort to give the most economical and best service possible under all circumstances.' A prior engagement prevented Mr. Dickey personally from attending the meeting, which was much regretted on all accounts. The session was interesting and instructive, and that good to the corporation and to its employess shall result from its doings, may not be successfully denied.—D."

The Wrinkle Department.

[Prepared for the Second Annual Meeting of the American Gas Institute, by Mr. M. R. Bump, Editor.]

No. 1.—*Electric Cut-Off for Relief Holder Protection.*—This device consists of a heavy magnet, revolving drum and cut-off attachment for releasing drum when wound up, all attached to heavy wood base, so that the apparatus may be attached to any wall.

B and *C*.—These are pole pieces and movable armature of a strong magnet attached to *P*, an iron support, with binding post extensions, and *O* a 2-piece bracket having pivot holes or journals, in which the extended axles of *C* work.

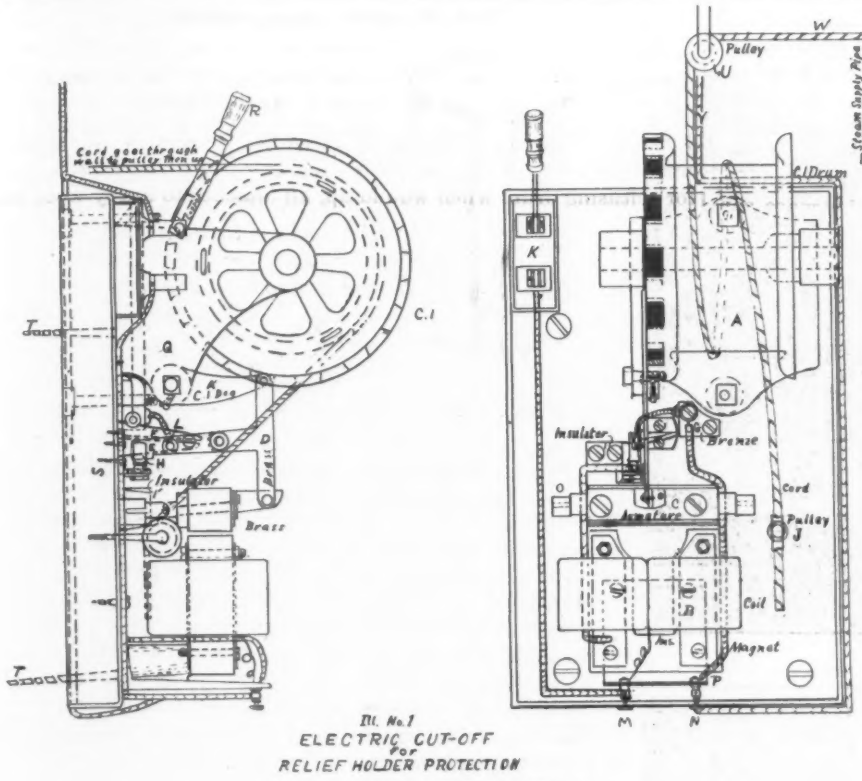
Armature *C* is connected with pawl *A*1, and movable lever *E*, by means of a T-shaped lever *D*, so that when *D* is raised contact is made between binding post *H* and lever *E*, and pawl *A*1 is pushed into a notch of *A*, thus blocking the movement of *A*. If *D* is lowered, it cuts the circuit and releases *A*, which is free to revolve as the weight drops, thus drawing down on the cord connected with a quick closing valve *Z*, which is placed in the steam supply line of the exhaust engine. This downward jerk closes valve *Z* and stops the exhauster. *E* is separate from *D* and pivots on the end of horizontal arm of *D*, as well as at the end of *F*, so that downward motion of *D* at the pivot point causes upward motion of *E* at the point of contact with *H*.

Direction of Current.—Current comes in over line wire *Y* to binding post *N*, then to binding post *G* and to connection *E* at *L*, through *E* to *H* (when contact is made), then to small wire passing through magnet coils and down to *M*, then to the knife switch *K*, which is merely a cut-off to break the circuit. *K* is not necessary when there is no contact at top of holder. If only one contact on the holder is used, and that one at the bottom, the machine will not stop the exhauster when the holder reaches the top, so that one setting each time it trips will keep it in readiness for work. We use signal lights for top connection on relief holder, which are cut in on the same circuit as the cut-off; therefore, leave knife switch open until ready to let the holder down for the last time, then close it and raise *D*. This makes the cir cuit complete at *E* and *H* and raises the armature *C*. As the current excites the magnet coils, *C* is drawn down, which releases *A* and breaks contact, so no heating effect is obtained in the coils of the magnet. A window weight is attached at the end of the movable cord, and as it drops the drum is revolved and the cord leading to the valve is wound up, pulling up on the handle of the quick closing valve on the steam line, closing it and shutting off the exhauster. This cord can be run for quite a distance over pulleys and in any direction if necessary. *Q* is a cast iron support for *A*, being made from a reel used for raising street arc lights. *I* is a piece of ebonite insulation and *I* a thin sheet insulator to keep the current from sparking across from support of *H* to support of movable armature *C*. Pulley *J* simply deflects the cord and gives a greater arc of contact between the cord and drum.

Holder Contacts.—For contact with the holder use a brass T-shaped strip extended from the guide wheel frame and connected to a free wire at the top of the holder, so that the movement up and down will not be retarded or interfered with in any way. This free wire should be connected to one of the line wires of the circuit. For contact at the bottom, the other line wire should be connected to a stationary brass spring, about 9 inches long by 2 inches wide, fastened at one end and arched so that when the movable contact on the holder touches it, it may move freely over the spring; and if the holder should be allowed to go so low that this movable contact passes the spring, in returning it will not be obstructed and make a contact again on the upward movement of the holder. Bells and lights for signals may also be cut in by the same contact if desired. If all connections are properly made the machine should not allow the holder to drop more than 1½ inches after contact is made, and the exhauster should be stopped within a few revolutions after the drop is released.—W. R. Rhodes, Supt., Springfield (Ills.) Gas Light Company.

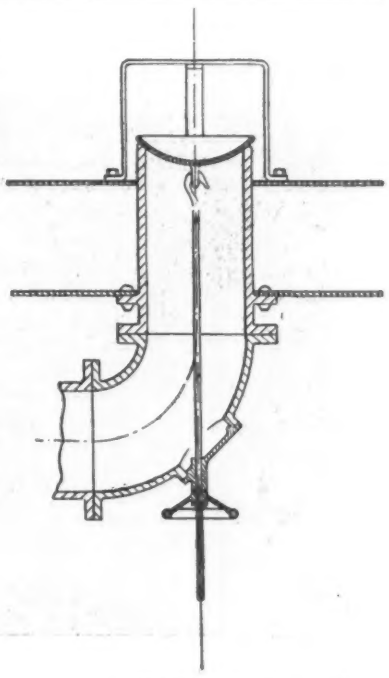
No. 2.—*Changing Wet Lute to Dry Lute Purifiers.*—This method consists in filling the water lutes with concrete and making a neat cement face on the top. The covers of the boxes were cut at the corners and spread until a flat surface was made all around to cover the cement face. They are held in place by anchor bolts imbedded in the concrete, and a gasket, consisting of cotton hose covered with graphite and boiled oil, is used.—Thomas Crawford, Gen. Manager, Clinton (Ia.) Gas Light and Coke Company.

No. 3.—*Temporary Scaffold Under Bridges.*—This consists of made



Ill. No. 1
ELECTRIC CUT-OFF
FOR
RELIEF HOLDER PROTECTION

Wrinkle No. 1.



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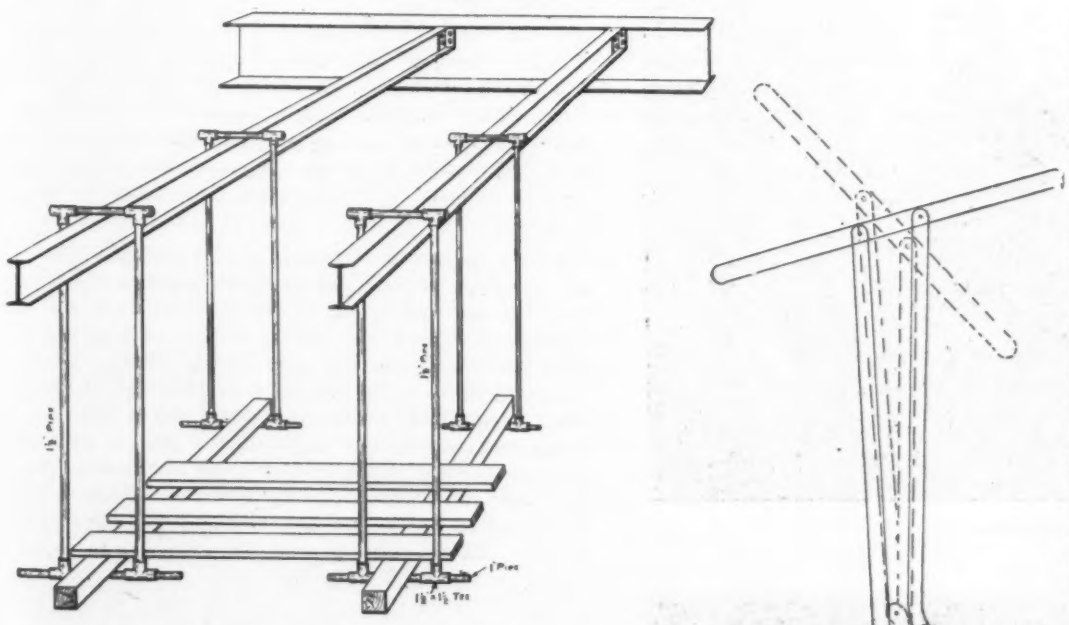
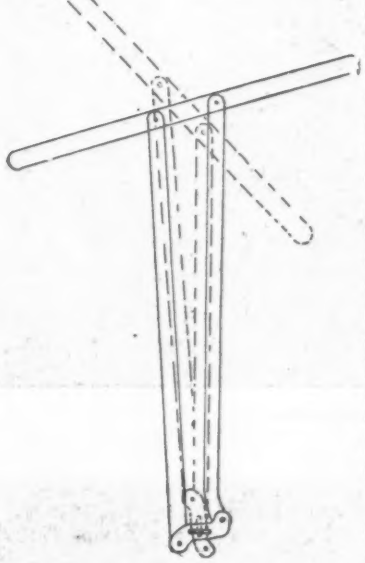


HANGERS FOR SCAFFOLDING SUPPORTS UNDER BRIDGES ETC.

Ill. No. 2

Wrinkle No. 3.



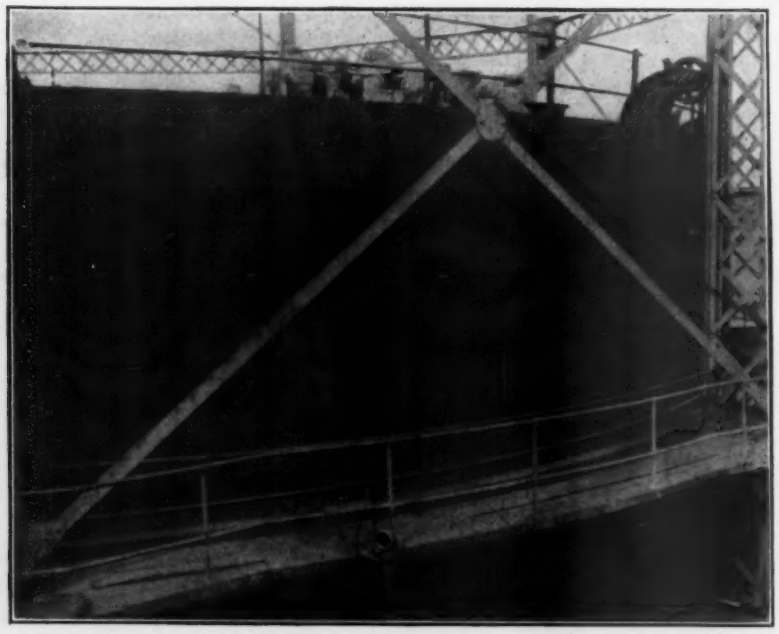
Wrinkle No. 7.

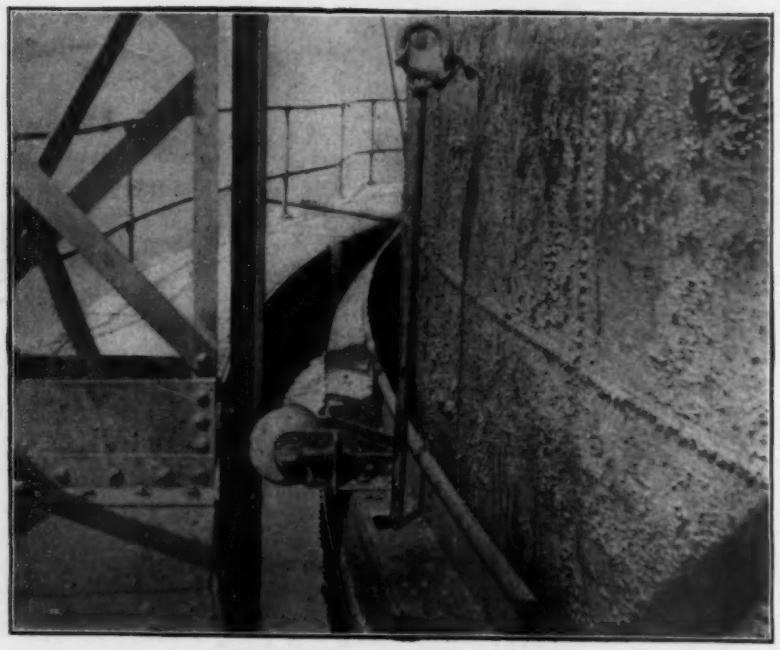
up vertical and horizontal pieces which can be quickly assembled, as shown in the sketch. The horizontal pieces are of smaller diameter than the vertical and simply slide through the tees.—A. J. DALY, Supt., North District Laclede Gas Light Company, St. Louis. Mo.

No. 4.—*Protection for Blast Pipe Lines.*—In addition to the contrivances ordinarily employed to avoid explosions in blast lines, we have found a very effective way to further protect the blast lines from explosions or kick-backs. This is accomplished with a device constructed as follows: Cut a hole in the tee that is connected with the blast valve of the generator—hole to be about ½ the area of the blast pipe—and rivet in the tee around the hole a double flanged ring. Between the ring flanges place a piece of ¼ inch sheet asbestos across the aperture. In case of leak from the blast valve, the explosion will blow out the sheet asbestos and thereby save the pipe.—W. B. CLINE, Los Angeles Gas and Electric Company.

No. 5.—*Asbestos Rope for Gaskets on Dry Lute Purifiers.*—We formerly had considerable trouble keeping the cover joints tight on our dry seal purifiers, especially when the gas was hot or the pressure high, say from 60 to 80 inches of water. Red lead putty was satisfactory in the days when the pressure was from 20 to 40 inches. We now use asbestos gaskets on all our purifiers. An asbestos soft-twisted ¾-inch rope is used as a gasket, and such a gasket has held perfectly tight with 87 inches of pressure. Before setting the gasket, apply a thin coat of red lead to the top of the purifier box where the asbestos rope is to be placed. After the gasket is set and just before setting the cover of the box, apply a thin coat of paint composed of a mixture of graphite and oil to the under side of the cover where the flanged part will rest on the asbestos gasket on the top of the box. The asbestos is far cheaper than red lead putty, and if set in the manner just described will last from 12 to 15 months without renewing, and it forms a very tight joint, preventing leakage of gas in the purifier house.—W. B. CLINE, Los Angeles Gas and Electric Company.

No. 6.—*Stopper for Gas Off-Take.*—To enable blasting generator while seal or scrubber is being cleaned. A convenient valve or stopper for a gas off-take pipe between seal and generator, which will enable the operator to blast his machine while cleaning seal, and will also prevent any danger from explosions between seal and generator while cleaning or preparing to clean seal or wash box, is constructed as follows: Take a piece of sheet steel about ¼ inch thick, and have a steel disk made about 2 inches greater in diameter than the cross-section of the off-take pipe. The disk should be "dished" about 4 inches, and an eyebolt fastened in the center. It is then placed in a cage on the under side of washer diaphragm directly under gas off-take pipe, and the off-take pipe beveled on the inside edge to conform to the "dish" of the disk. A rod, one end of which is hooked to the eyebolt in the disk, is then passed up through the cleaning elbow and door of the off-take pipe, a small hole having been cut in door to admit rod, and a rod throat attached to door through which the rod is passed. The upper end of the rod for about 15 inches of its length is threaded, and with the aid of a 6-inch handwheel, with a thread cut through the center, working on the threaded rod, it is a simple matter to screw the disk tight up against the beveled edge of the gas off-take pipe. The cage that holds the disk is made of two pieces of 2-inch by ¼-inch flat iron bent at right angles and crossed





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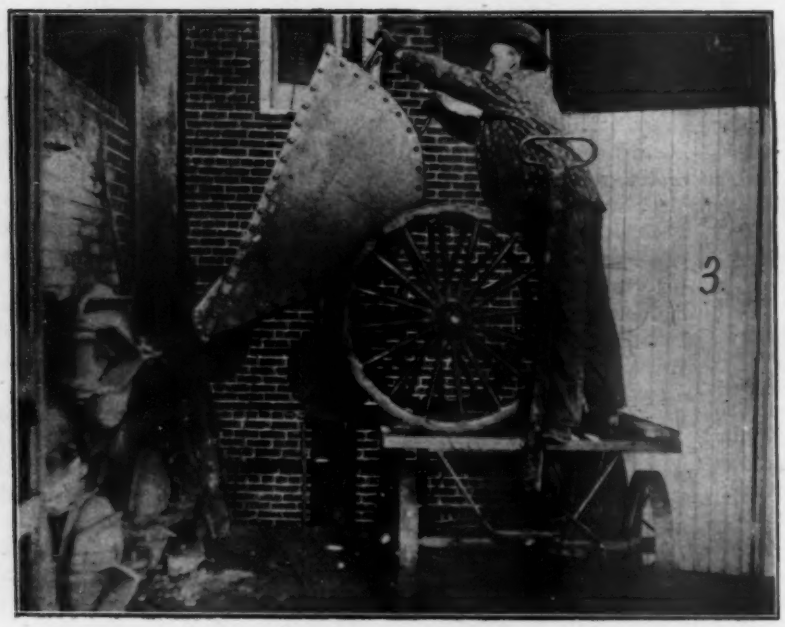


Wrinkle No. 13.

Wrinkle No. 14.

at center, with a bolt at the intersection, and the four ends cap-screwed to the under side of the diaphragm. The cage should be made as deep as the cross section of the off-take pipe. When the stopper is not in use (when the generator is running), the disk rests on bottom of cage, the rod and wheel having been taken out of elbow entirely.—W. B. CLINE, Los Angeles Gas and Electric Company.

No. 7.—*High Pressure Drip Cock Wrench.*—This wrench is designed for use in opening the cock for blowing high pressure drip boxes.—C. J. FOX, Suburban Gas Co., Chester, Pa.

No. 8.—*Repairing a Cracked Compressor Cylinder.*—The following method was used in order to make quick repairs to an 18-inch diameter cylinder which had been cracked by fire which destroyed the roof of the compressor room: The inner cylinder was cracked through half its circumference. Starting at one end of the crack we drilled a ¼ inch tap hole for ¼-inch pipe thread, plugging this hole with a ¼-inch pipe threaded rod and cutting it off flush with the cylinder. Then along the crack we drilled a second hole overlapping the first plug, and plugging it with a threaded rod, as in the first case. We continued this treatment throughout the entire length of the crack, which required 130 holes, practically forming a solid plug throughout the entire crack. This immediately stopped the water leak and also the gas leak, and we believe the outer shell of the cylinder is strong enough to hold the inner section, and that the cylinder will now last the lifetime of the balance of the compressor. This same method may be used in repairing boiler cracks. It might not answer on a single casting like a steam cylinder, as in that event it would act as a wedge and tend to split the cylinder further. J. D. SHATTUCK, Suburban Gas Company, Chester, Pa.

No. 9.—*Repairs to Damaged Relief Holder.*—The holder was damaged by being drawn down against a 4-inch U-pipe, used for tar settling in the holder tank, and which had slipped out of place and come in contact with the cup of the inner lift of a 200,000-foot relief holder. When discovered, 5 goosenecks were broken off from the inner section, the other were off the guides, the holder was canted about two sheets, and the cup was rolled like a piece of paper where the pipe struck it and the holder badly buckled on the side. The damage occurred during a storm and the water gas maker relied on the telltale which showed no sign of the trouble. Holder makers said the only way to repair the damage was to land the section, clean the tank which contained 100,000 gallons of tar, raise the outer section by jack screws and cut out and replace the damaged portions. Instead of this method the following plan was employed: We first landed the section, thoroughly ventilated it by air blast, siphoned 2 inches of light oil from the surface of the tanks by means of inverted siphons working near the surface. We then blew the inner section up with air. We cut holes through the grip of the outer section at each column and inserted through these holes heavy hooks that had been made. These hooks we attached by means of a 2-inch hemp cable to the horizontal girder. The pressure gauge on the holder designated a pressure of 3 inches. The air was permitted to escape until there was a 7-tenths pressure on this gauge and the crown was just waving. This stretched the cables nearly 1 foot. We then tied the goosenecks to the column as securely as possible and then let the balance of the air out of the section so that the goosenecks took some of the weight. We found that we had succeeded in hanging the section level and it stayed level throughout the 3 weeks that it hung on the cables, the cables stretching during that time nearly another foot. We then drew the water down in the tank below the cup and proceeded to cut out the damaged section of the holder, and took out the bent cup, sent the piece to a nearby shipbuilding place and had the channel iron re-rolled.

We put this section of the cup together on the ground and were able to reinsert it in place with very little difficulty, contrary to advice given us by holder people, who said that the holder would spring together at this point when the section was cut out, and it would be practically impossible to force it apart and put the piece in again. As a matter of fact, this was easily wedged into place. The most difficult job of the entire work was to bend about 2 feet of channel iron of the next section. We did not wish to cut any more than one section, and in order to bend the bent piece back by hand we made a number of tools. We also made a number of tools to drive up the rivets in the cramped corners. We succeeded in driving up every rivet but 3 on the work. The end that was bent badly and which we reshaped in place by means of the above mentioned tools is not perfectly true, but it is joined up with the section that was cut out, and has made a tight job. The load was 8,200 pounds on each cable and column. The air was kept pure in the holder by means of a canvas air blast. The entire work was completed in about 3 weeks and at a cost of about one-third of any estimate given us by holder builders for making these repairs, and also without accidents of any kind.—J. D. Shattuck, Suburban Gas Company, Chester, Pa.

No. 10.—*Store Room System.*—Bins are arranged with all fittings of the same size in a horizontal line and all those of the same kind in a vertical line. To the top of each bin a tin drawer is fastened. Checks are stamped with the first letter or number of each account. When any number of any size of fittings is withdrawn, that number of checks are put in the drawer indicating what use was made of the fittings. At the end of each month, the checks are withdrawn and counted, and the total withdrawn entered on the store room record. They are then classified and counted for report of materials on different classes of work. The inventory is then checked by means of cards in each box, showing number purchased and used each month. This system saves a great deal of clerical work at the end of the month and enables the storekeeper to keep very close account of his stock.—C. A. Werber, Atlanta (Ga.) Gas Light Company.

No. 11.—*Method of Sealing Off Worn Out Retorts.*—Where several retorts are connected to a single pipe and it becomes necessary to blind one of them, considerable difficulty is encountered in making a tight job by the ordinary method of building a single 12-inch brick wall inside the mouthpiece. In order to overcome this difficulty the following plan has been successfully employed, with the result of materially increasing the candle power: Build three walls of single brick thickness; the first about 1 foot inside the retort; the second just inside the retort, and the third in the mouthpiece itself. The first wall acts merely as a deflector of heat from the second wall, which should be built as carefully as possible and mudded thoroughly with fireclay. The third is also carefully built and so placed that, even if air does leak in between the mouthpiece and retort, it cannot be drawn into the gas.—Paul McMichael, Superintendent, Atlanta (Ga.) Gas Light Company.

No. 12.—*Check System for Meter Repairers.*—Each man in repairing a meter is required to solder a number or tag, indicating date meter was repaired; on the bottom of the meter and on the left side near the top place his initials. Should there be any further trouble with the meter, a glance will show when and by whom it was repaired. Also on the inside on the back plate the repairer writes the nature of repairs made by him. The result has been to make the repair men very careful in their work.—Geo. W. Ackerman, Atlanta (Ga.) Gas Light Company.

No. 13.—*Charging Device for Inclined Retorts.*—One of the principal arguments against inclined retort settings for small gas works has been the excessive cost of the coal storing and handling apparatus. Our coal is handled to charging floor in an ordinary dump wagon with long discharging chute. The lower retorts are charged by simply running the wagon up to them and tilting until the contents are discharged into the retorts. For the upper retorts the wagon is placed on a platform buggy of the required height. The actual time required to dump a buggy is 8 to 10 seconds, and one man can perform the whole discharging and charging work in less than 4 minutes.—B. F. Bullock, Fredericksburg, Va.

No. 14.—*Shield for Outside Gas Arcs.*—A simple shield to protect mantles from wind while cleaning outside arc lamps is made by cutting a piece of heavy canvas 28 inches long and fastening same on wires, as shown on the accompanying sketch.—D. N. Frazer, Battle Creek (Mich.) Gas Company.

No. 15.—*Respirator.—To Enable a Man to Work in a Gaseous Atmosphere.*—The head piece is an ordinary workman's cap, to which is attached face protector made of sheet tin, oiled silk and clear celluloid; rubber tubing attached to waist as shown; air supplied by centrifugal fan mounted in box; air pressure maintained uniform by large gas bag as shown, or by ordinary gas engine bag inserted in tubing. A constant pressure is maintained within the face protector, so that there is a constant outward flow around the edges at cheeks and chin. Two head pieces are attached to the pump, the tubing leading to each head piece being of 1 inch diameter, and the tubing from junction back to pump being 1¼ inch. This device is home-made.—United Gas Improvement Company, Philadelphia Gas Works, Distribution Department.

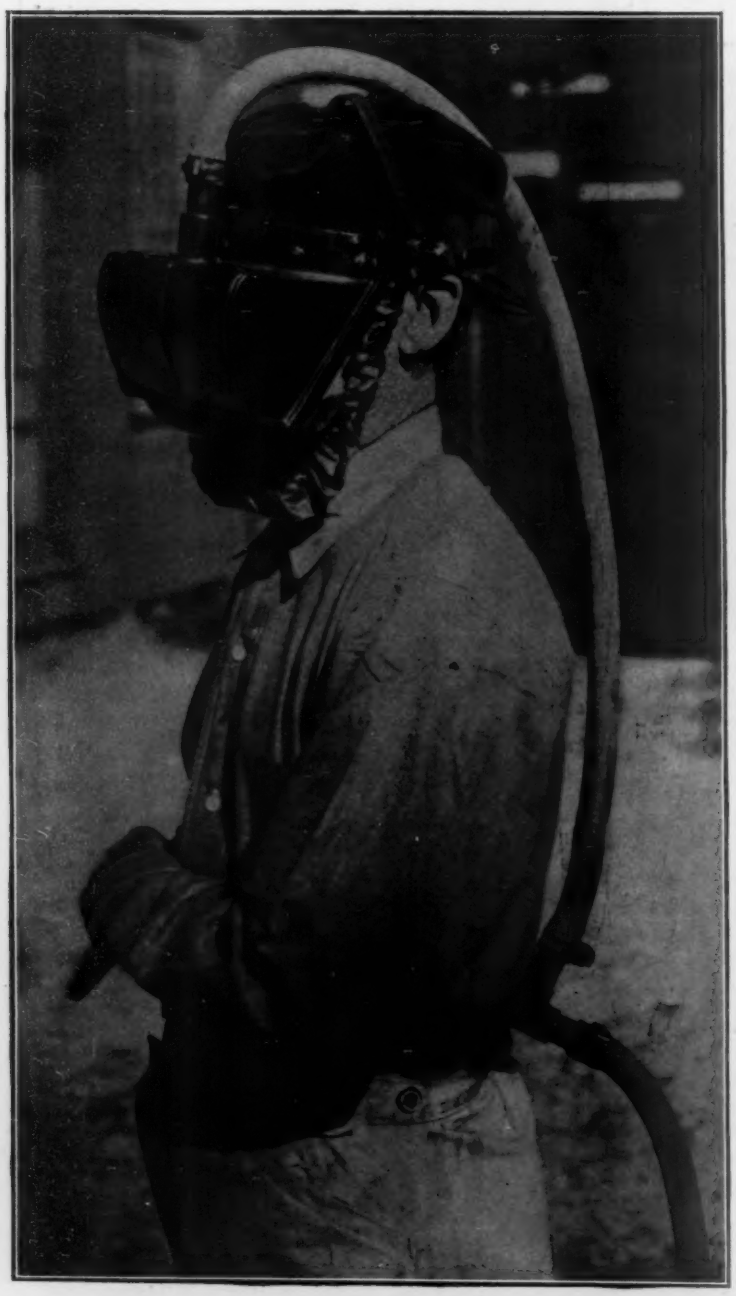
No. 16.—*Meter Test Orifice.*—This is a safety device used in turning on gas. It is not safe to depend on watching the meter dial for movement of the same, because there is no certainty that the meter is in such condition that it will register at small rates of consumption. If the meter has an internal leak it will pass some gas without movement of the test hand, and thus deceive the person watching same. The orifice for sizes up to 100-light inclusive is made of cast aluminum, the disk is of brass, and the small hole is of proper size to pass ¾ of a cubic foot of gas per hour under 20-tenths pressure. When ready to turn on gas the operator screws test orifice on meter outlet screw, disconnecting the riser, if necessary. Gas is then turned on meter and the operator observes if test hand moves within a stated time, as described in schedule furnished him. If so, he knows that meter is in condition to register a flow of gas at the rate of ¾ of a cubic foot per hour or over. Test orifice is then removed, meter attached to house piping, gas turned on, and if test hand of meter shows no movement in same length of time, operator is sure house piping is tight and no burners are open. This test orifice is also found useful in complaints of leaks, as it enables the workman to form some idea of the size of leak in house piping, by comparing rate of movement of the meter, when attached to house piping, with the rate shown when the test orifice is on. For larger sizes the test orifice is made of cast brass with brass disk, as shown.—United Gas Improvement Co., Philadelphia Gas Works, Distribution Department.

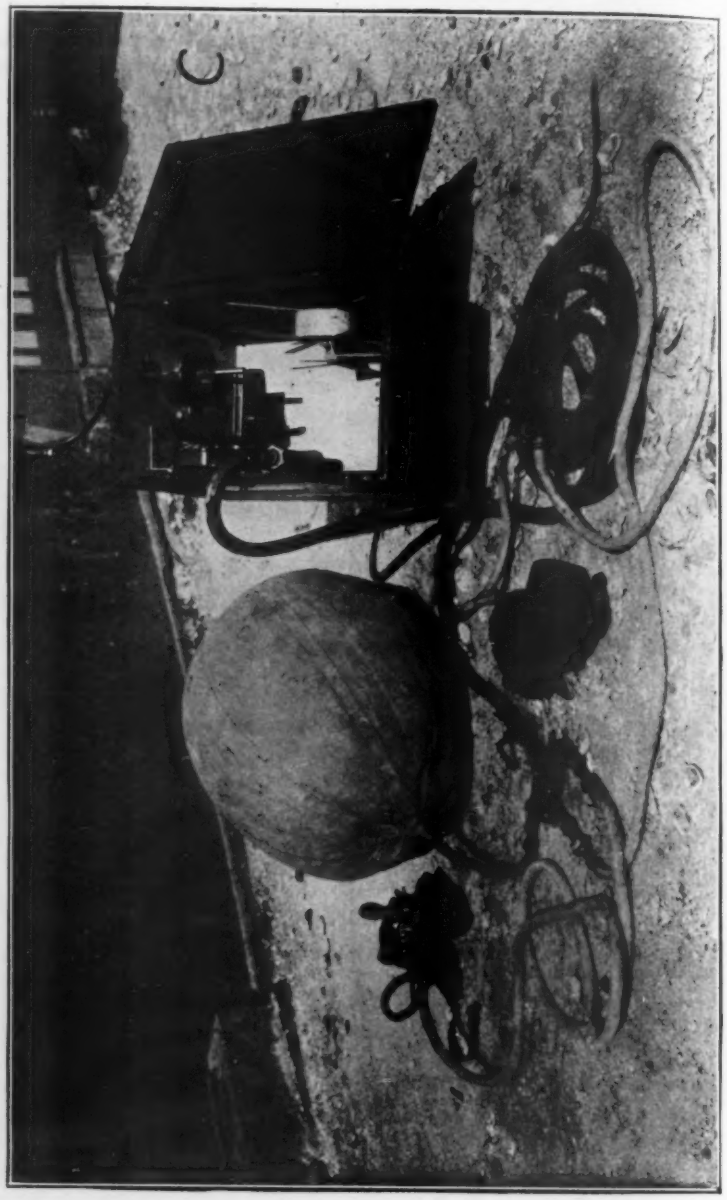
No. 17.—*Meter Setting Gauge.*—This gauge is used in setting meters, its object being to strain the meter and meter screws as little as possible. The gauge consists of 2 meter screws mounted on a rod composed of steel tubing. One screw slides on the rod and can be clamped when properly set. The gauge is first applied to meter to be set, the two screws on the gauge being adjusted exactly over the screws on the meter. The gauge is then used instead of the meter in making up the meter connection, the latter being adjusted so they hang in exact position before the meter is lifted to them. This practice reduces strains in meter screws, and thus reduces meter leaks.—United Gas Improvement Co., Philadelphia Gas Works, Distribution Department.

No. 18.—*Meter Column Pump.*—The drawing illustrates a hand pump for clearing water or condensation out of meter columns. It is harmful to the meter to turn same upside down in order to pour out this condensation. This is true of all meters, but especially so of those where the diaphragms are dipped in oil. The pump is made of ⅜-inch brass tubing, with handle and piston rod of ⅛-inch wire. The piston is a leather washer held by nut screwed on end of rod. This pump is used in several sizes to suit the size of meters.—United Gas Improvement Co., Philadelphia Gas Works, Distribution Department.

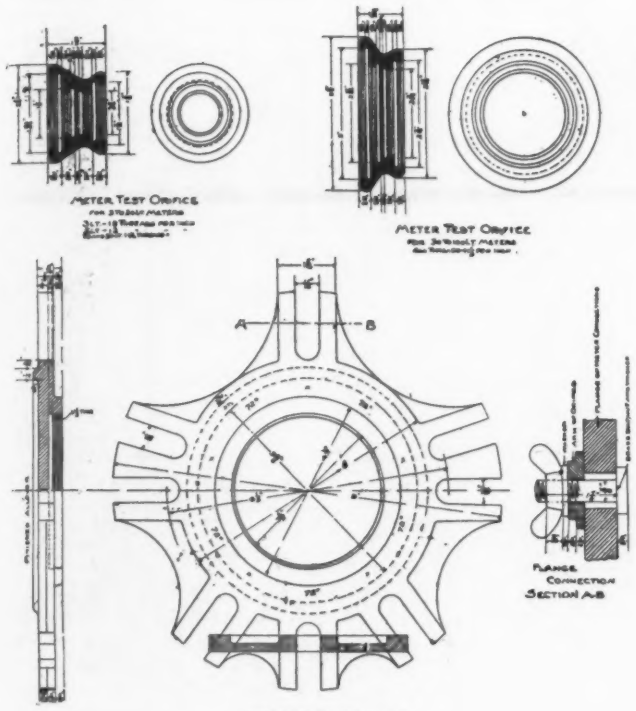
No. 19.—*Standard Service Drips.*—Where levels do not permit service to drip back to main, a service drip is inserted at the most convenient point outside of the building. It is considered bad practice to place service drip in cellar. The drawing illustrates the forms of drip used.—United Gas Improvement Co., Philadelphia Gas Works, Distribution Department.

No. 20.—*Safety Independent Cock.*—The drawing illustrates a special form of independent cock, in which the nozzle on the side outlet for reception of hose is bent downward. This form of cock is used in order to lessen the risk of accident by a person inadvertently turning gas into the wrong pipe. In the ordinary independent cock, the handles of the two gas cocks (on the gas bracket and on the side outlet) are side by side, and one is easily turned in mistake for the other. In the form here described, the handle of the cock supplying the side outlet is on top of the fixture, and is thus easily distinguished from the handle of the cock on the gas bracket, which is always on the bottom.—United Gas Improvement Co., Philadelphia Gas Works, Distribution Department.





Wrinkle No. 15.



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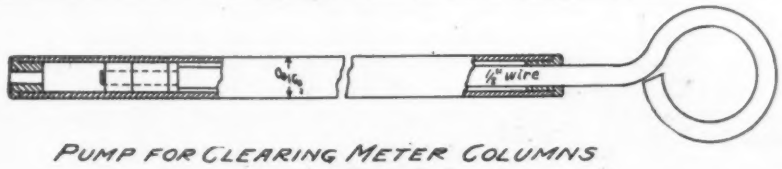
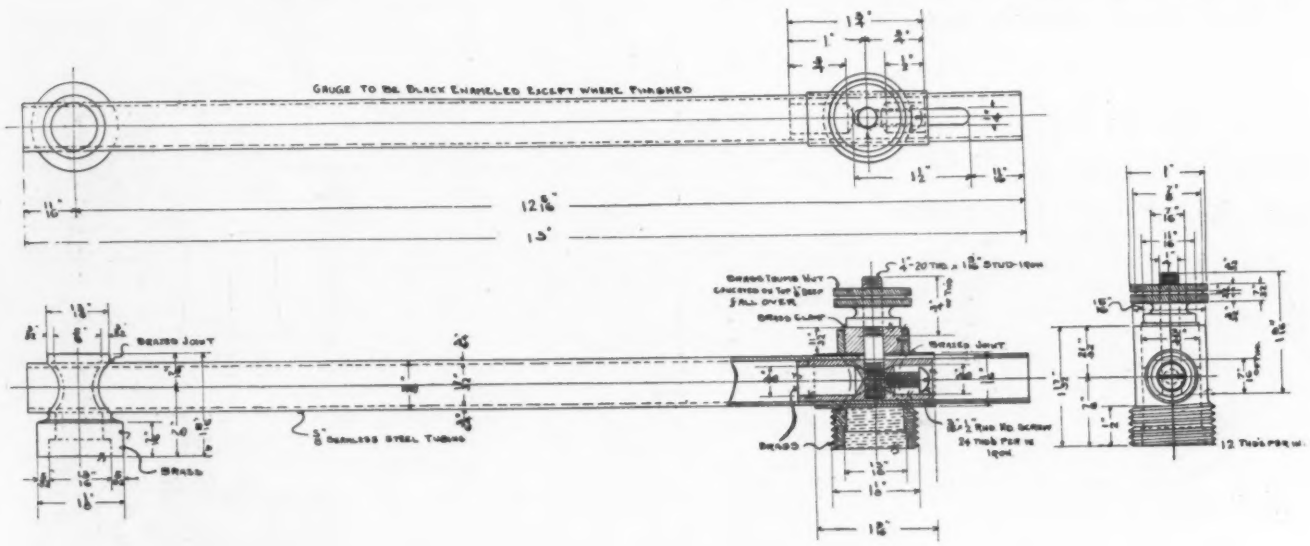


PUMP FOR CLEARING METER COLUMNS OF CONDENSATION

Ill. No. 14

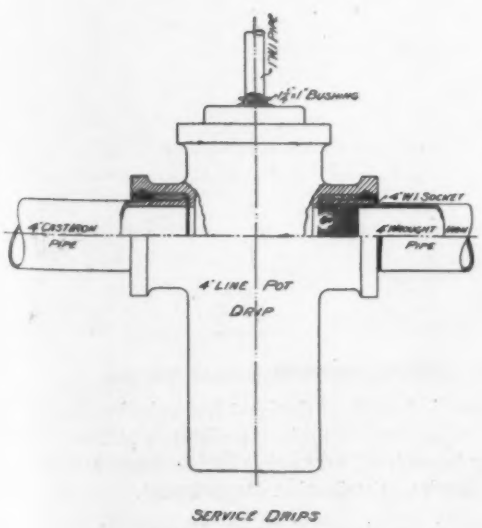
Wrinkle No. 18.

No. 21.—*Union Joint for Rubber Tubing.*—In the drawing this joint is shown as applied to the safety independent cock, described in Wrinkle No. 20, but this joint is applicable for the connection of appliances with rubber tubing to any other design of fitting. For use with this joint, the tubing is purchased with brass ends, tapped with ¼-inch pipe threads. The joint is of the regular union pattern with nut and tail piece, but instead of being of the ground joint type, the gas-tight feature is obtained by the pressing of a sharp edge on the soft metal conical end to the tail piece. This feature permits of several independent cocks being attached in different rooms, and the gas heater or appliance with the tubing and tail piece, carried from room to room and connected where desired. The advantage is a greater safety, as it is impossible for this joint to slip or pull off as can the ordinary slip joint. The joint can, of course, be made gas-tight by screwing the nut by hand, so that it is an easy matter for consumer to move the appliance from one location to another. At the appliance end of the tubing, a threaded connection is made by the fitter, and this, of course, need not be disconnected by the consumer. On any

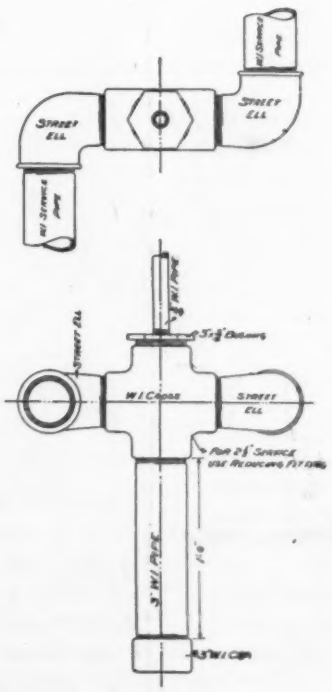


Wrinkle No. 17.

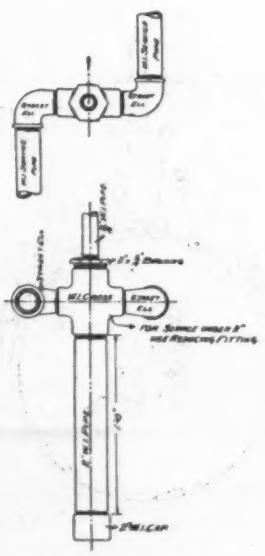
G.



SERVICE DRIPS FOR 4" CAST & WROUGHT IRON SERVICES



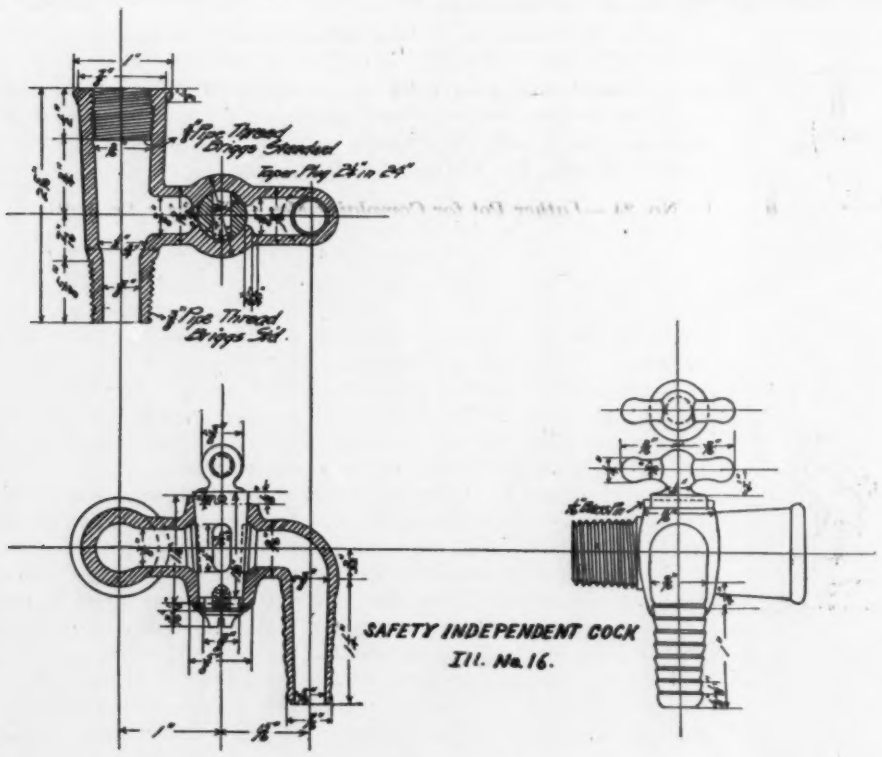
SERVICE DRIPS FOR 2½ & 3" WROUGHT IRON SERVICES.



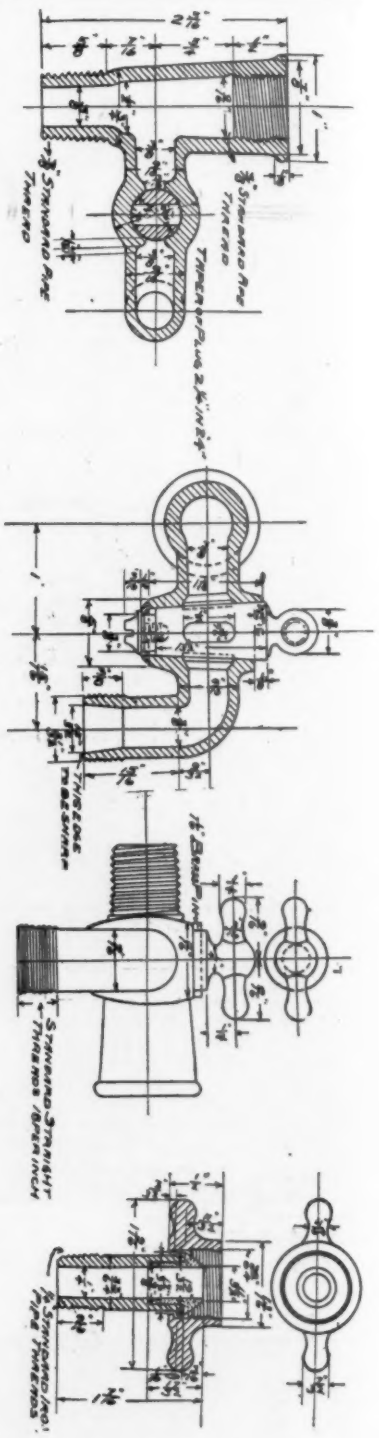
SERVICE DRIPS FOR 2" WROUGHT IRON SERVICES & UNDER.

Ill. No. 15

Wrinkle No. 19.



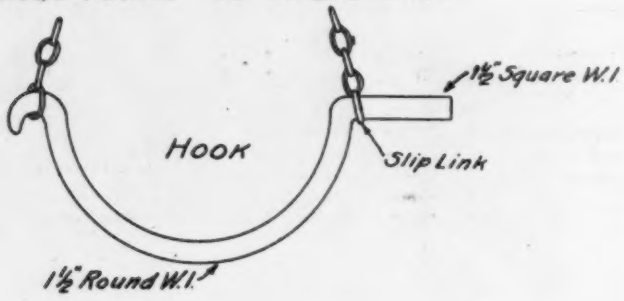
Wrinkle No. 20.

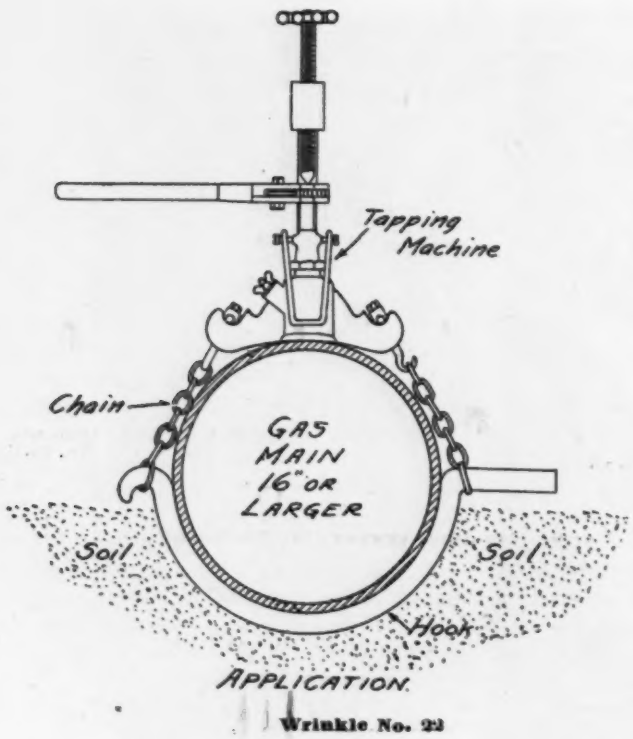


Wrinkle No. 21.

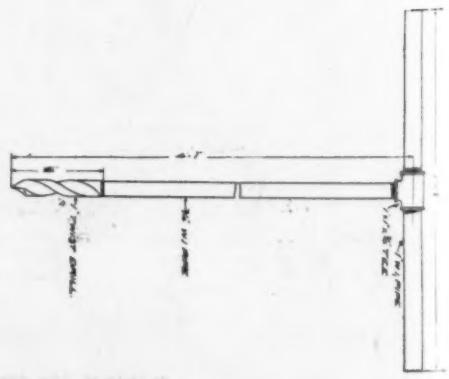
Ill No. 18

CHAIN HOOK FOR USE IN TAPPING LARGE MAINS - 16" AND OVER.





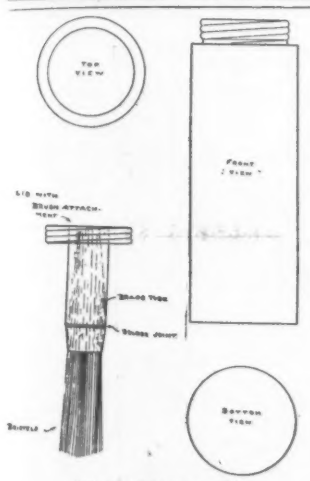
Wrinkle No. 22



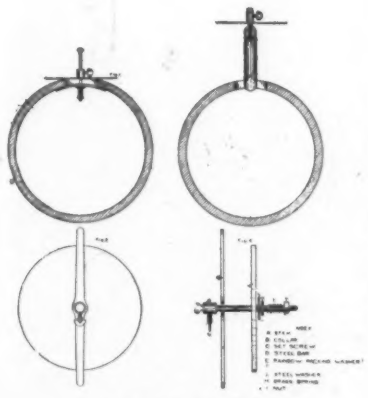
Wrinkle No. 23.

appliance where there is danger of the heat from the burners being conducted to, and injuring, the tubing, a distance piece or nipple about 3 inches long is used.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

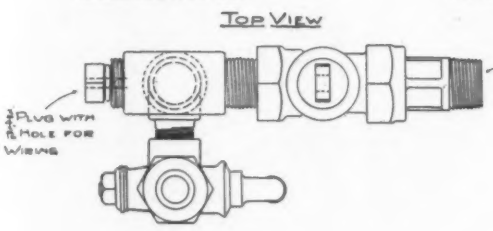
No. 22.—*Chain Hook for Tapping Large Mains.*—The object of this hook is to save the necessity of excavating under a large main



Wrinkle No. 24.



Wrinkle No. 31.



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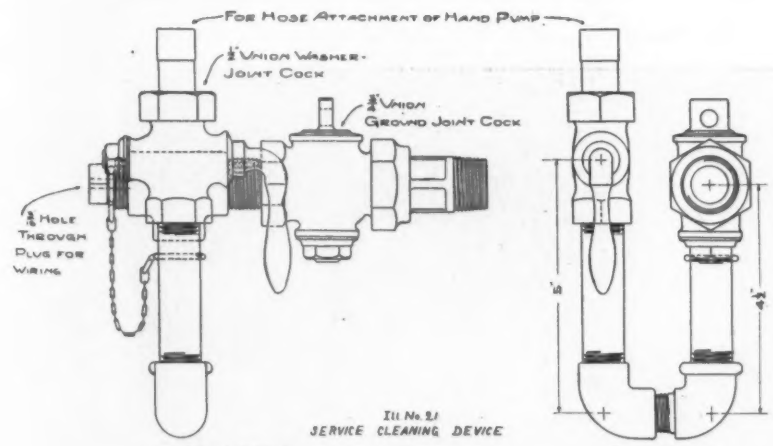
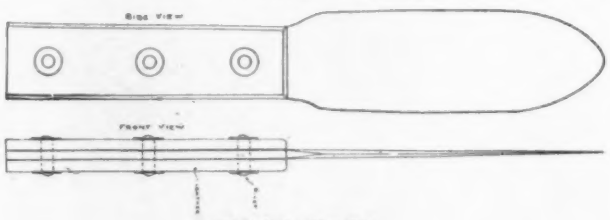
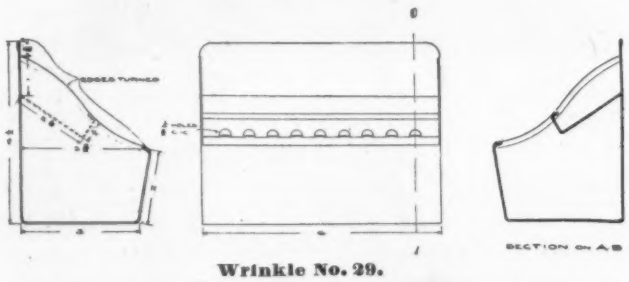


Ill No. 27
SERVICE CLEANING DEVICE

Wrinkle No. 25.



Wrinkle No. 28.



Wrinkle No. 29.

Wrinkle No. 30.

for the purpose of attaching the tapping device. The hook can be forced under the main and adjusted as shown.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 23.—*Street Leak Drill.*—This drill is used for boring leak holes, instead of driving a bar. The object is to prevent entering and injuring terra cotta or metal conduits, containing electric wires. The pavement and pavement foundation are pierced by driving a bar, which is then removed, and the leak drill is then used in piercing the earth to the required depth. If the drill chokes with earth, it is pulled out, cleaned, and again inserted. In hard soil the drill should be operated by three men, one bearing his weight directly over the center, and one at each end of the handle rotating it.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 24.—*Lather Pot for Complaint Men.*—This is a tin bottle similar in shape to a talcum powder bottle, with a brush like a shaving brush soldered to the metallic lid.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 25.—*Service Cleaning Device.*—By the use of this device it is safe for one man to blow out or clean out a service. Without the device, it is not safe for this work to be done by one man alone. In using the device, the gas is first shut off at the curb cock; then the plug at the head of the service is removed and the device attached. By the proper manipulation of the two cocks, the man can blow out a service, or blow wood alcohol, or oil, into it without the necessity of any gas escaping into the cellar. By the use of the plug with small hole, a wire can be pushed into the service with a very small escape of gas. Before the device is removed from the head of the service, the curb cock is again shut.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 26.—*Work Completion Schedule.*—A valuable addition to the ordinary form of consumers' record in facilitating the completion of work is the Work Completion Schedule. Each work card, on its way to the fitting department, is stamped by the clerk at the consumer's record with a date, or hour, before which it must be completed. The clerk places a dummy, or finder card, in the consumer's record, so that if the work card so stamped has not returned to him from the fitting department before the date for which it is scheduled, he starts an inquiry for the same. As soon as the work of the previous day is entered on the consumer's record, the clerk goes over the record, canvassing the same for all overdue work. The clerk is, of course, provided with a previously arranged schedule of the number of days, or hours, thus permitted for different classes of orders. The existence of a date on each work card is found to be very effective in spurring on the workmen in the fitting department. The use of the method here described has been found valuable in bettering the service rendered to consumers on all classes of work.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 27.—*Correspondence Methods.*—In offices where it is the practice to retain a carbon copy of letters sent out, attaching the same for file to the letter which is answered, the carbon copy should be made on the back of the letter which is answered. This saves paper, saves room in the file, and prevents any possibility of a letter and its answer getting separated. Of course, there are occasions when this practice cannot be used, but so far as it is applicable it is of value.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 28.—*Knife for Topping Meters.*—This "wrinkle" consists of a two-edged knife instead of the ordinary form with one edge. This enables the operator to follow the soldering iron in either direction without turning the knife, and thus quickens the removal of the top from the meter.—UNITED GAS IMPROVEMENT COMPANY, Philadelphia Gas Works, Distribution Department.

No. 29.—*Meter Repairers Soap Cup.*—The advantages of this cup are the two compartments, the upper one for soap and the lower one for water. The drippings from the soap pass through the perforations and drop into the water. The use of this cup results in a saving of soap and the maintenance of a uniform quality of light soapsuds. The cup is used in shops where meters are tested and repaired, the soapsuds being required to determine and locate leakage on the meters.—UNITED GAS IMPROVEMENT CO., Philadelphia Gas Works, Distribution Department.

No. 30.—*Device for Cleaning Holder Rivets.*—The tool is made with three prongs so shaped as to fit the rivets closely. The edges are ground sharp. The tool may be inserted in a spiral screw driver when one stroke is sufficient to clean the rivet nicely.—E. P. GARTLAND, Denver (Col.) Gas and Electric Co.

Day View.

Night View.
Wrinkle No. 32.

No. 31.—*Re-Tapping Stopper.*—This is a stopper for use in retapping mains. The stopper is inserted and put in place and the enlarged hole can then be chiseled out until the right size for the reamer.—C. L. DAY, Peoples Gas Light Company, Chicago.

No. 32.—*Decorative Gas Arch at Fredericksburg, Md.*—The accompanying photographs show a novel design for decorative lighting with gas. This arch was afterwards remodeled by placing a gas sign, "Cook with Gas," in place of the arc lamps.—R. C. CONGDON, Manager, Atlanta (Ga.) Gas Light Company.

(To be Continued.)

THE City Council of Fredericksburg, Va., has ordered that the selling rate there on all accounts is hereafter to rule at $1 per 1,000. The prevailing rate was $1.25.

[Continued from page 892.]

PROCEEDINGS, FIFTEENTH ANNUAL MEETING, MICHIGAN GAS ASSOCIATION, HELD IN BATTLE CREEK, MICH., SEPTEMBER, 1907.

FIRST DAY—AFTERNOON SESSION.

A vote of thanks having been passed to Mr. Huntting, and to the members who participated in the discussion as well, the President called for the paper by Mr. E. J. L'Esperance, of Saginaw, Mich., entitled,

WAYS AND MEANS TO INCREASE GAS SALES.

In the absence of the author, the paper was read by Mr. H. C. Morris, of Bay City, as follows:

This is such a broad subject that one might spend days on each

phase of it. My purpose is, however, to touch on those points which appear to me to be more than of ordinary interest to the gas company of to-day.

While some of these methods may not apply to all gas companies, by any means, the writer believes that the spirit or policy to a large extent will. How then, are we to increase gas sales? We are selling gas to people of intelligence to-day, and as such they'll do nothing against their will. It is very plain, then, in order to sell more gas, it must be according to the users' wishes and with their consent, that we cause them by some means or other to see their way to use more gas. To accomplish this result is indeed a task. If a man could truly say that he could do this, *i. e.*, by some means or other to persuade people to increase their gas purchases 25 or 50 per cent., what a position would be his, and what an accomplishment.

It is my impression that there is only one way in which to do this, and it is without the use of magic, legerdemain, or anything else of the sort. It is rather done by a careful study of the human animal, the understanding of human whims, troubles, joys, etc., coupled with a lot of push. Who can but say that, if a man were to buy a certain article, and the sellers of this article consisted of two men, if all things were equal, he would give the order to the man for whom he had the most regard. It is human nature. Who can or will deny, but that there are lots of men and women to-day who trade at a certain grocery, meat market, etc., where it is known that the stock and conditions are not as good as Brown, Jones & Co.'s big establishment across the way, but who do it because they know Mr. Ellis. They meet him at the door when they go in, and he always has a hearty "good morning" ready. He sees that they are waited on promptly, and inquires about the children. Who can refrain from liking a genial souled man of this kind, who does these things, not because it brings more business to his doors, but rather because it is in him, and being in him, it strikes a responsive chord in the customer, that makes him feel pleased and satisfied that he has the privilege of buying in Mr. Ellis' place of business, instead of in that shell of a place where automatons are stationed about to gobble in the shekels, and where there is an atmosphere of money making only.

It is the writer's belief that the gas company of to-day sees its own image in the action of its public. If it is a fair, broad concern, operating in the light of day, rather than behind closed doors; if it gives the right kind of service to its patrons, service that the ordinary gas consumer demands, it is very apt to find that it has a warm spot in the heart of its public.

It has been said to-day, it is impossible to make these people think well of a public service corporation, and that they are trust mad when it comes to traction, water, gas and other corporations. I believe that this is erroneous. While there are some people who will always kick, it has been the writer's experience to go out to adjust complaints, that were apparently at first glance hopeless. Yet in practically all of them have the company come out victorious. Why? Just because the rule of horse sense was applied, and the trouble was seen in the way the customer saw it. This is the only way to adjust trouble, to try and see it as the other fellow does, rather than argue, wax hot, and in the end pursue a method of independence. I feel a sympathy for a great many gas company's customers, because there they are, a poor ignorant lot, who don't know how or what they are buying. When a man undertakes to kick, it is to be inferred that he believes something is the trouble, and he does it, not because he likes to, but usually in the hope that he may obtain some information, that he may be enlightened and shown how such and such a thing is done. Perhaps in his breast there lurks just a suspicion of our honesty of purpose. Now is the time to wipe it out, and make him an asset, inasmuch as possibly he was heretofore known to be a kicker; or now is the time to convince him that we are just what he thinks us. I believe with the usual case, that the utmost candor should be used. He should be taken step by step throughout the institution; should be shown what an establishment we are, how we post our ledgers, how the meter reading slip is cut off after the reading is turned in, and how utterly impossible it is for the meter reader to "fake" or guess a reading, the reason we send different men to read the meter each month, and how to read his own meter. I have seen the most pronounced cases, of chronic kickers, softened up and sent out smiling, to say that the gas company wasn't the company they had always supposed it was, only through being handled by a good judge of human nature, a good complaint man. All the troubles of a gas company spring from small beginnings. Jones or Smith, in the corner grocery, has had trouble, just a little thing, but it furnishes food for his conversation to his customers for the next 3 days. They, about fifteen or twenty, speak of it at their little gatherings, and it loses nothing by repetition. Lo and behold, some politically inclined alderman, with an eye to the mayor's chair or a piece of lucre, gets hold of it, has heard more of the same from different parties, and thinking that the time is propitious for a move in the council, and a grand-stand play, springs something about the rotten service, and the big price for gas.

One more thing that has a tendency to aggravate the public, to a greater or less extent, is the placing of girls in positions where they are brought into active touch with the public. For instance, the writer believes that a man should be employed, a broad shouldered, good natured looking man, one who is quick to see and hear, at the teller's window. While this may not apply to the big company's window, yet with the small company it would oil up some of our emery afflicted friends. The customer usually tells his troubles to the teller, and he or she advises him to go back to the order or complaint department. If she snaps him up, or leads him to think that he is but one of many, he is in just exactly the right frame of mind to have his indignation at his supposed wrong raise ten points higher at the high handed way in which he is treated, and the trouble man has just that much more work to do. It also leads him to think that everybody is kicking. When is he referred to the complaint department, a most excellent place to take him is to an office, away from numerous people standing about and there have a duplicate of the "teller man" to talk to him? It frequently happens that his trouble is the result of ignorance. What is then more natural for him to do than to shout out at the top of his voice, where he is heard by everyone, and some of his statements sound at the moment very plausible. Take him, rather to a cozy little private office that makes him feel at once that he is of some importance. Show him a seat, a good big comfortable chair, and perhaps a cigar will help as a preliminary, and then sail in and ask him what his trouble is, what has gone wrong. Get confidential. Investigate his trouble fully, and while he is there, from his side particularly. His troubles amount to something. Haven't he and his wife been talking about it for the past 3 weeks – ever since the gas bill came? Wasn't he somebody? Didn't he burn as high as $1.50 worth of gas a month? This was something like it. They could plainly see his importance. They (the gas company) weren't such a bad lot after all, and now as he looked at it, that was just a mistake. Guess no one as generous and fine as that would over read a meter intentionally wrong, etc., and so it goes. The human being is made up of thousands of different feelings, whims, etc., and a large part of him is susceptible to flattery. To my mind, the misadjustment of complaints is about the worst thing a gas company can do. Next to this, a trouble that aggravates the public is the tardiness with which the work is done. An order once taken and promised, should be lived up to. It is very easy for a gas company to acquire an unsavory reputation only because it has not kept its word with regard to the length of time in which a thing is to be done.

The writer believes that, treat the public right, there'll never be any unsatisfactory council proceedings about the gas company. The company need never fear as long as it has the masses with it. It has been my experience to be with a certain company, whose name, when mentioned to the ordinary gas customer, is praised or spoken of in the highest manner. This stands for something. The company accomplished it through years of broad policy, and to-day has a record for big gas sales.

It is the writer's belief that popularity is the keynote to the situation. How else does the big merchant hold his own, if he be not popular. The merchant as a rule has not the chance to be as popular as the gas company. To begin with, his field is less. The merchant doesn't begin to sell to the number of customers the gas company does. But his business is the result of satisfaction, and satisfaction is the outcome of good merchandise at low prices. Here then is the open sesame of a good appliance business and necessarily increased gas sales. Let the gas company that handles appliances sell them at a reasonable price. To sell five mantles at a profit of 2 cents each is better than to sell one at a profit of 10 cents. The gas company has every one of its customers buying gas from it every month. Surely this should be a means of making friends and of selling a great deal more of the product. Is it not possible for the gas company to have prestige? By all means. It can be cultivated and won, not in a month or year, but eventually won as the result of sales at small profits, which must surely do for the gas company as it does for the department store, where the motto is quick sales and small profits. Thus would the public get to know, like and respect its gas company. A means to this end is to have mantle sales, for instance a 20-cent

mantle for 17 cents, or a 75-cent Welsbach burner for 63 cents. A real bargain establishes confidence, and that once gotten hold of becomes valuable. In short, follow the methods of the big, energetic, progressive merchant and you are on the right track for popularity.

Along the lines of newspaper advertising. While newspaper advertising is undoubtedly good, I believe too much money can be spent on it. For instance, advertising at stated periods, while good for the grocer, who has a Saturday market basket at every week, and who sells every week because people must eat, might not do as well for the gas company, who might feel that on certain days its advertising wouldn't carry the weight that it might on other days on account of weather inclemencies. Illustrated advertising costs but little more than the ordinary and is far more forceful. The gas bill stickers are another means of advertising. There is very little on the stickers that escapes the eye of the average woman, and it's a mighty good way to keep in touch with your customers.

A range cleaning department is sure to do a bit of good. We keep a man busy during the summer cleaning gas ranges at 75 cents each, C.O.D. One summer in a city of 35,000 we cleaned about 500. Then, too, a department to clean and adjust burners is sure to do a lot towards causing people to like and use their lights. Almost without exception the "poor gas" cry comes from some one who has a dirty cheap burner and doesn't know it. This working right means more gas sold. Get the department on a self supporting basis and it's good. A demonstrator is a necessity. An educated, agreeable woman who can bake, talk and cook, to go from house to house, and get those numerous ovens busy that otherwise do nothing. In one house the writer saw the oven full of carpenter's tools, and in many the oven had never been used at all. The coal range had a more familiar feeling, and was being used for the heavy work; the gas range to make the coffee.

If these ideas are followed and applied as per the condition of the town, etc., there is no question but that the gas company will earn a favorable reputation for itself, a reputation of business-getting ability, of readiness to satisfy all, of trying to do the right thing, of being square, in short of being just the opposite of what some gas companies have now the misfortune of appearing to be. These things cost money, but if we are here to stay, our attention should not be solely on to-day's profits, unless we feel that we have reached the acme of perfection, but rather on the future. Let us be ever striving, ever pushing, straining every nerve to make a success of our business, so that each one of us may have that feeling that is sweeter than all else, that we have done our "level best." There are big, bright days ahead.

Discussion.

The President—This paper covers a wide field and offers a great many openings for discussion. I should like to call on Mr. Ewing to open it.

Mr. Ewing—In all that is said about new business, the final query seems to be, can you deliver the goods? A year ago, at one of our meetings, I heard a discussion tending to show that the new business man was going to overshadow the manufacturing man, but I think the sooner we realize that the man who delivers the goods is the one to whom we must look first, the better it will be. In other words, it is a question of your service. A good advertisement is a profitable investment if you can deliver the goods that you advertise; but to advertise something you cannot deliver, or that the public does not get, I believe, is spending your money in the wrong direction. It seems to me much business can be obtained for the company in its own office just as well as by the staff of solicitors or representatives employed. He touched on a very strong point when noting the importance of knowing to whom you are talking. Make your hearer think that he is the important being all the time. In other words, use the second person "you," not "we." I find that if on going into a man's office or factory, you start saying: "*I* am a representative of the gas company, and *I* want to do so and so," in a very few minutes your listener has cold feet, so cold in fact that he will ring for the porter, and have you ushered to the elevator, wherefore your opportunity is lost. To the contrary, if you say, "Your trade interests me, you do a big business of your kind and employ many men; as you spend lots of money you are interested in getting better results," etc. He becomes interested in a few moments and likely invites you to go through the factory, spending an hour of his valuable time. Then you have the asset you are looking for, you have his confidence. You may not be able to sell him what you have to sell at that particular amount, but you have gained his confidence, and you, as a representative of the gas company, have done the one thing that the company employed you to do. You have left an impression of what the gas company is. The gas company is not known by its President, that is, as far as the public is concerned. They do not go to the President, and very seldom to the General Manager, or the officers of the company, to get their complaints straightened out. They will go to the man whom they know. A company is favorably known if its employees are liked. You will hear it said too often, that you have a grouchy employee, and that throws a shadow over the entire company. They say, "We cannot get any satisfaction at your office; I go down there and am nobody." Fortunately that does not occur very often, but it occurs frequently enough to impress upon my mind the necessity of giving the publie what you advertise. I do not believe we can afford to get busness of any kind until we are in shape to take care of it. I can speak feelingly on the arc light business, because it is the one thing we have placed a good deal of stress upon in Detroit; but there is no use talking to a man about getting either business or more business from him unless you convince him you will give him what he is to pay for, then the price will be a secondary consideration. If price is a secondary consideration with him you can afford to spend that profit in getting the kind of men who will leave a "good taste." I thoroughly approve of Mr. L'Esperance's paper, and believe if greater attention is paid to service we will reduce our cost for new business and will surely get broader and better results.

Mr. Lloyd—Very little can be added to the papers of the character of the last two to which we have listened, except in the broad sense that the more new business you get the more successful your company will be. The details will be worked out by the men employed in the office, each in his own individual way; but the more we all realize that what the consumer wants is to have his work done by the product that we supply, that he does not want to be bothered or troubled with it, and that we take that off his hands, the more successful will we be. It is not that a man wants to buy gas from us; what he wants is to have his house properly lighted. He does not buy gas from us for the purpose of cooking. He wants to have his cooking done with gas or anything else, with the least trouble and the greatest expedition and most convenience. In reality it is a service of light, fuel and industrial use which we are supplying. In a certain sense we are not selling gas, we are selling those *services* to the public, and the nearer we come to accomplishing those purposes for the public, in a manner which causes them the least trouble, and appears to them to be at the least expense, the nearer we will come to giving a perfect gas service.

The President—I should like to ask one or two questions. As I understand it, the ways and means to increase gas sales opens up a very broad field of thought, and I should like to have Mr. Ewing or Mr. Murray explain to the convention how Detroit gets hotel business and keeps it? That is one question. If they will answer that I believe we will get something concrete and beneficial in the ways and means of increasing gas sales, because I know some companies have attempted it and failed.

Mr. Murray—I would like to make a few remarks about Mr. L'Esperance's paper, and will leave the hotel business to Mr. Ewing. I thoroughly agree with him when he says a company should have a bunch of live wires on the order and complaint department, because ordinarily they are the parties to whom the consumer talks. They represent the company, and if you have a woman there, or a boy, who does not know what she or he is talking about, and much less care, you have an awfully poor representative. I think gas companies will hold business that the new business department will get, if they put in live people, that are representative and salesmen, in the complaint and order department window. When a man comes to recount a trouble he means to fight, and if he has to talk to a woman, there is a limit; he can go only so far, and before you satisfy him you must get it all out of his system. I believe in the glad-hand man taking him off in a room, and there letting him tell it all, and then let the listener tell him how it is that his visitor is wrong, or show him that he is wrong. I believe to Mr. L'Esperance is due much credit for his excellent paper.

Mr. Ewing—Regarding the hotel business in Detroit, I think the one thing that made it possible for us to get as much hotel business as we have, is that we have a man in the employ of the company who is absolutely practical. He made most of the coal installations in Detroit, and so the *chefs* know him and have confidence in him. He has fixed their troubles for a number of years, so now when he tells them the thing to do is to cook with gas, his word goes, and then proves it by keeping the gas range in such a condition that it is al-

ways ready for use. This has made it possible for the company to get and keep a good deal of that business. A discussion of the small coke fire is interesting right here for we have found that in a large hatel it is difficult to show them how they could use gas economically with the kind of help possible for them to get. They realized that gas was a convenience, and wanted to use it because it is cleaner and better, but it was going to cost more money. In order to get some of the largest installations we have displaced six coal ranges with the installation of first, two gas and one coal, then two gas and one coal. In other words we gave them four gas ranges and two coal ranges. For the business that runs all day, and the business needing fires to throw on and off at all times, they use the coal range; for the heavy work and big demand they use gas. We find they like the gas so well for the big demand that they use it even though the coal fire is there. We have satisfied them with their own argument and they have paid us the price willingly. The time may come shortly when we won't need this extra coal section; but it looks necessary, and I believe by its means we are getting an enormous revenue that we have waited for. Even with that assistance, however, I do not believe we could have kept the business that we have, had it not been for this maintainance, which comes right back to this paper, as service. We sell a man something that will do certain things and then keep it in condition so that it does what we said it would do, and the price becomes a secondary consideration. If you get right back at a man with "What are you getting for your money," then it is a question whether the price is high or low, but to a man who is getting his money's worth, it seems to me you have satisfied him. The only thing is the question of service, and, having a practical man who absolutely knows the hotel business, and how to keep the ranges always in condition, the service is maintained. In case of trouble the hotels call our office; in 60 minutes, under ordinary circumstances, they have a man to attend to their grievance. Fortunately, they do not have to call very often because a man is on the road all the time replacing burners, and we charge them for what we do—not for labor, but for material.

The President—I am glad Mr. Ewing brought out these things, for they are of vital importance in the hotel gas range business. The other question I would like to ask in connection with this, is the influence or effect of a sliding scale on getting large business. That is a practical question for all gas men, and I think a number here can answer that question in a way that will benefit us all. Mr. Frazer I believe has done large business, and I wonder if it is due to any variation in the rates.

Mr. Frazer—I believe it is necessary, in order to get large consumers, to make a special rate that you can offer to anybody who will use gas in the same quantities as the particular party, for the reason that hotels, for instance, cannot afford to cook with gas at $1 per 1,000. We have a sliding scale which enables us to sell gas to large consumers at less than $1. I do not believe that you can get hotel business, or any other large business, at the regular rates, for the reason that they can do their work cheaper than with gas. I agree with Mr. Ewing that service is the most important feature in holding this business. A couple of years ago, through odd mishaps, we put out some poor gas during 2 or 3 weeks, for a period of an hour or so a day. At the end of 3 weeks we lost every restaurant in the city. Since then every restaurant cooks with gas, and we have the largest hotel. We have one man who looks after that business, as we find it necessary to keep the burners in condition. If you leave it to the cooks they won't do it. In about three days a restaurant range will get so filled up with dirt that it will hardly burn and the cooks won't give it the necessary attention. We have a man who does nothing else but keep the burners in hotels, restaurants and the like in an efficient condition at all times.

The President—Mr. Hellen has had a good deal of experience in just this subject we are talking about, especially the complaint meter.

Mr. Hellen—I don't know that I have much to say, except to note that in Rochester we do not teach people to reduce their gas bills. We use a complaint meter with a great deal of satisfaction, and we combine our complaint and commercial departments. I speak now in regard to the office. The superintendent of the commercial department is directly in charge of the complaint department. In other words, it is his interest to keep the business, as well as to get it. He is now getting men from our shop, and it has worked out well. We have two special men calling on people who make complaints respecting high bills. I can look back to the time when we taught them how to reduce the gas bill, but not any more. We take the householder down to the meter and light up a gas jet to show that the meter is registering correctly. For illustration. A case coming under my personal observation was this: A short time ago a customer's bill amounts to $8, say. The lady said she was satisfied to pay the bill, if she knew she was getting the gas and was certain the meter was registering correctly. I told her that the gas burner was burning approximately 8 feet, and showed her from the meter that it was burning pretty close to that. I also showed her that the stove burners were burning about a certain amount of gas, so before I left there I had satisfied her that the bill was correct, with the result that she was satisfied. Another thing we do, wherever we have a complaint about a house of any description, we put No. 8 Bray burners through the premises. On every gas fixture they have we put a No. 8 Bray burner, and the only places we advise to use the Welsbach burner are the dining, parlor and sitting rooms. We try to educate the public to use the open burner in the different bedrooms throughout the house, and sell gas instead of selling mantles. I wish to put a great deal of stress on the complaint department—I am speaking of the office end of it in charge of the commercial department. It has worked wonders with us because it is to the interest of the commercial man to keep the business after he gets it, and he cannot do so unless he has charge of the complaint department.

Mr. Tippy - It seems the unanimous opinion that the only way to hold hotel and restaurant gas cooking is to keep the burners in order, having somebody looking after them, and not wait until they are thrown out or for complaints. I think it important for the same reason that the gas ranges in the homes be taken care of, and not wait for complaints to come in. We have a sufficient number of solicitors in Grand Rapids, employed the year round, to visit and thoroughly look into every gas appliance in each home in the city once in 4 months. The commercial man has a certain district to take care of, and he is responsible for that disirict. I think that is just as important as taking care of hotels.

The President—About what does it cost you per range to take care of and clean a range per year?

Mr. Tippy—We do not keep any track of the time they put in cleaning ranges. We give credit merely for the business they get. No time is charged.

The President—You have found 4 months is about the correct time to clean them?

Mr. Tippy—I do not know that that is the correct time. Every 4 months.

Mr. Butterworth—They do not clean the ranges every 4 months?

Mr. Tippy—They see that the ranges are working properly. Mr. L'Esperance used the services of a lady to teach people how to cook and so forth, and one of our representatives is taught to do the same thing. If on their rounds they find the oven is not being used, they show the housekeeper how to use it. If he cannot do that an expert baker in our employ is put on the task.

The Secretary made some routine announcements, after which an adjournment was ordered until the following day.

[To be Continued]

Outdoor Advertising in Brazil.

In Brazil it may as a rule be said that anything which can be made to produce a municipal revenue is employed to that end. For instance, the financial estimate of the municipality of Rio de Janeiro for the current year included revenues from a tax on salaries of officials, revision of house numbers, wagon weighing tax, registration of cows, domestic servant tax, tax on unoccupied building sites, fines for infractions of contracts, etc. Among such estimates are those for rent and licences of kiosks, and advertisements and door-plate tax, which concern outdoor advertising. Every sign in Rio is taxed. The American Consul there says that the proprietor of a café, having a special *sorvete*, or ice, to serve, makes a placard and hangs it to a doorpost, or to one of the palm trees in tubs which commonly decorate such establishments. The notice thus posted must have a revenue stamp attached. Permanent signs are taxed on a permanent basis, temporary signs on a stamp basis. A sign "house to be let," bears a revenue stamp. Under such circumstances the tax on sign-boards or bill-boards is the expected thing, but naturally there is much less general use of such forms of advertising. As in cities in England and the United States, a vacant corner in a frequented street is very likely to have some sort of a bill-board arrangement, and temporary boardings about buildings in course of construction are generally covered with more or less prominent advertisements, but these advertisements

being taxed, are regulated both in size and other respects. Since it costs in Brazil a good deal in the way of taxes, as well as in the preparation of boards, for the purpose of such advertisements, there are very few of them to be found. The outdoor signs are, as a rule, painted ones, and in general it may be said that they represent the best form of poster or bill-board advertising. Theoretically, anyone can erect outdoor signs, subject to the approval of the prefect or mayor of the municipality and paying the tax, but practically the erection of such signs is almost altogether in the control of a company which has taken possession of the most available sites for such work. In a large number of suitable positions in parks, pleasure resorts, vacant street corners and elsewhere, kiosks have been erected for the sale of light refreshments, and these structures are taken advantage of for a vertising purposes. As a rule, the kiosk privilege carries with it the advertising privilege. There are also in the various streets and avenues small movable kiosks, often of so light a construction that the proprietor carries it about with him, goods and all. These are also licensed by the municipality and generally carry advertising matter. In the way of electric signs there is practically nothing to be seen in most Brazilian cities. The Consul says that he does not know of a single electric sign in Rio de Janeiro, but it is probable that as soon as the new electric light and power service is effective there will be a change, and that regulations will be modified to meet changed conditions. In Sao Paulo, in some respects the most up-to-date city in Brazil, there is plenty of electrical current to be had at comparatively low rates, and electric signs are commencing to appear.

The Loew-Victor Pipe Cutting and Threading Machine.

The Loew-Victor, No. O power machine, for cutting and threading pipe of small diameters (⅛ to 2-inch), is meeting with much favor. This device, the principle and method of which are easily comprehended from an examination of the illustration, was designed mainly to meet the demands for operators of pipe machines, who, while anxious to have a power driven machine that will work on minor sizes, are not disposed to invest heavilly in the setting up of a large lathe bed set. Two years ago the Loew-Victor pipe machine was practically unheard of, as at that time the manufacturers were just about to place it on the market. That success has been enjoyed in a large measure is evidenced by the steady increase reported in the business and the continually growing demand.

No. O Loew-Victor Pipe Machine

The Loew-Victor machines, both hand and power types, are designed on the principle of the universal chuck; they have an automatic device for releasing the dies after the thread is cut and for removing burrs from the thread, and a method of transmitting power which is designed to insure a maximum amount of power and render the machine noiseless in operation. All the Loew-Victor pipe machines are now being equipped with cut-off attachment, which extends down through the solid portion of the die head in a manner similar to that of the dies. When the cut-off is in use the pipe is centered by an adjustable self-locking guide, similar to the self-locking feature of the die head, which obviates the necessity of using bushings.

ITEMS OF INTEREST FROM VARIOUS LOCALITIES.

NOTICE has been given to the shareholders of the Shamokin (Pa.) Gas Light Company that a special meeting will be held to-morrow for the purpose of voting on a proposition to merge its interests with those of the Shamokin Arc Electric Light Company, the Shamokin Electric Light and Power Company, the Shamokin and Coal Township Light and Power Company and the Edison Electric Illuminating Company, of Shamokin.

AT the annual meeting of the Elizabethtown (N. J.) Gas Company no change was made in its executive management.

NEITHER was any change recorded in the management of the Brooklyn (N. Y.) Union Gas Company at its annual meeting.

AT the adjourned annual meeting of the Woonsocket (R. I.) Gas Company the following result was reached: Directors, F. A. Sayles, Russell Cobb, F. O. Pratt, F. B. Bemis, Steadman Buttrick, Jno., W. Ellis, C. E. Ballou, F. E. Holden and Chas. H. Darling; President, F. E. Holden; Vice-President, R. G. Randall; Secretary, Alvah Todd; Treasurer, H. B. Sawyer—of Stone & Webster; Assistant Treasurer, W. H. F. Judd; General Managers, Stone & Webster. This result bears on its face the fact that Messrs. Stone & Webster have virtually secured control of the Company, and its affairs are consequently to be continued under careful, competent business management.

THIS beautifully worded specimen of a resolution was recently adopted by the City Council of Vincennes, Ind.:

"*Whereas*, The public in general *is* complaining of the poor quality of artificial gas and *are* of the opinion that the meters are working overtime. Therefore, be it

"*Resolved*, By the Council that the Board of Public Works be instructed to investigate the same by employing an expert to examine the quality of the gas and see if the said Vincennes Light and Power Company *is* living up to *their* contract."

"What matters them speeches to we?"

HERE is a fairly good record, as forwarded by a correspondent writing under date of the 15th inst.: "Perhaps no other gas company in a city the size of Rutland, Vt., has made greater strides than those taken by the gas department of the Peoples Gas Light Company, of Rutland, Vt., now a branch of the Rutland Street Railway, Light and Power Company. In the year 1901 the output returned was 4,200,000 cubic feet; in 1907 the output was 27,000,000—the fiscal year ends September 30th. Now there are in use 1,386 meters, and 809 ranges, etc., are helping on the good work. In 1903 the gas rate was $2.50 per 1,000; now it ranges between $1.25 and $1.15, according to the quantity used per month.

AT a recent meeting of the Directors of the Putnam (Conn.) Light and Power Company, the following action and resolutions were ordered spread on the minutes:

"*Whereas*, In consequence of the retirement of Allen W. Bowen from the active management of this Company we feel compelled to put on record our regret at the loss of his service and to testify to our appreciation of the valuable services he has rendered during the past 18 years as Secretary, Treasurer and General Manager of our corporation; therefore, be it

"*Resolved*, That during the long term of his services directing the affairs of our Company he has performed his duties in a manner that won the confidence and respect of the Board of Directors and the stockholders; and be it

"*Resolved*, That we tender to Mr. Bowen our sincere thanks for the able and conscientious manner in which he has fulfilled his position of trust and responsibility, and as evidence of our appreciation of his past services he is elected a Vice-President of this corporation."

DURING the month of September the moneys received by the authorities of Gilroy, Cal.—the water, gas and electric light utilities are operated on municipal account—on the named accounts were returned at: Water, $526.70; gas, $552.85; electricity, $221.09.

WE are indebted to Mr. T. L. Barry, of Harrisburgh, Pa., for the following: "Some days ago—to be exact, Monday, Nov. 11th—the Supreme Court of Pennsylvania handed down a decision in the case of the appeal of the Consolidated Gas Company, of Pittsburgh, versus the authorities. The matter at issue was the decision of the Superior Court that Pittsburgh had sovereign rights over its streets, wherefor it could enforce an order requiring the Consolidated Gas Company, and all other companies using the streets of Pittsburgh as well, to remove its street mains to such underground routes as the officials thought would best preserve the health of the people, or as to whatever regulations the health board might formulate. The Company, in arguing on the appeal for its main contention, urged that the city's water pipes were entitled to no greater right of way than were those of the Company. The appeal was negatived."

MR. V. A. Z. HICKMAN, of Pittsburgh, Pa., has been elected a Director in the Franklin (Pa.) Gas Company, vice the late Mr. David Sterrett.

ACCORDING to the Report of Mr. W. C. Allen, Electrical Engineer for the District of Columbia, for the twelvemonth ended June 30, 1907, new lamps numbering 1,920 were placed. The street lamps in use totalled 12,940, of which 7,700 were of the Welsbach mantle type. During the year a good working circuit of the magnetite arc electric lamp sort was made operative on New York avenue, from Seventh street, northwest, to Second and B streets, northeast, and on Brightwood avenue, from Upshaw street to the District line. The expediture on street lighting account for the year amounted to $230,732.20.

THE November edition of "Gas-ps," the monthly near magazine issued each month by the Suburban Gas Company, of Philadelphia, has to do with turkeys and other matters. Naturally and attractively, the bird holds the premier's place, for his roosting place is the cover From the book we learn that the Suburban Company is making the following piping and fixture proposition to the residents: 7 outlets, piping concealed, $15.75; 1 hall fixture; one 3-light parlor fixture; one 2-light dining room fixture; single light kitchen fixture and 3 brackets for bedrooms, $12.75; total, $28. If it is preferred the house-owner or tenant may select the plumber to be employed. The household hints in the book are all right.

HUNTINGTON PARK, CAL., is anxious that a gas works shall be constructed there, and a Mr. H. F. Lenkfeld is engaging in the attempt to organize a company to build a plant, the estimated cost of which is $120,000.

THE employees of the Chelsea (Mass.) Gas Light Company have formed an organization the aim of which is their betterment from a technical point and for better personal acquaintance. The sessions are to be held monthly, and the organization President is Mr. Joseph M. Riley. The Secretary is Mr. A. E. Mace. The first session was held about a fortnight ago, during which a speech by Mr. Mace, on "Transformers," led to a spirited discussion. Another feature was a collation interspersed with short speeches, the recital of some "nonsensical things," etc. The meetings are to be held for the time in the electric light station business room, but before the winter ends another assembling place will have been selected. "Unions" of this type are sure to increase in number and in value.

THE plant of the Goshen (Ind.) Gas Company is being put in shape to the point where it can be depended on to send out 340,000 cubic feet per day, instead of 220,000, as at present. The increase is mainly in its coal gas division, the benchwork for which is to be done by the Parker-Russell Mfg. Company, of St. Louis.

THE Committee on Light of the Toledo (O.) City Council has recommended that the franchise, granted to the Kerlin Brothers in April, 1900, for the right to supply gas in that city, be revoked. They never did anything under its provisions, and we remarked at the time it was granted that the Kerlins were likely to do nothing practical under its provisions.

UNDER the leadership of the gentleman (Mr. D. Shelby Williams) who succeeded Mr. Cole (big-hearted, large-minded, capable business man that he is) as President of the Nashville (Tenn.) Gas Company, the corporation does not seem to be making much headway. Whether so or not Mayor Brown recently addressed six queries to him asking certain replies over certain things—as to the composition, candle power, etc., of the gas being supplied, the improvements on plant underway and in contemplation, etc. The President had not, up to the 13th inst., answered the queries formally in writing, but the Nashville *Banner*, of that date, reports a conference between Mayor Brown and Mr. Williams, in which it was developed that the latter admitted that the Company was not living up to its contract to the letter, but the failure to do so was owing to the rapidity with which the city was growing. However, Mr. Williams added that the "improvements underway" would be completed early in January, in which happy event the Company would be in position to fulfill its contract to the letter. The "improvements" referred to consist chiefly of the erection of a medium diametered water gas set—coke sells readily at retail in Nashville at 9 cents per bushel—a few pipe connections, and so on. The truth is that Nashville's gas supply needs a complete new manufacturing plant—no matter, whether coal or water gas—and a rejuvenation of its main system, to say nothing of its extension. These are things that ex-President Cole demanded should be done at least a year ago, and his overruling in such respect is undoubtedly the cause that led him, at the last meeting of the shareholders, to refuse to longer serve it as President or even to consent to a re-election to its Board of Directors.

ALBANY, N. Y,, Nov. 25, 1907.

Dear JOURNAL: A few days ago I received a handsomely engraved announcement, from the house of Messrs. D. McDonald & Co., of this city, conveying the news of a change in the location of their factory, from Lancaster street to the premises, 971-997 Broadway, and it seemed the proper thing that I should look over their new quarters and later on, as your special representative, send you some account of that which is to be seen in their beautiful establishment—beautiful is not at all outside the mark, mind you. True, it seemed a bit strange not to find the McDonald's busy at the old stand, beneath the shadow of the $25,000,000 Capitol Building in Albany, where they have been doing business for something over 50 years. It was a pleasure, however, not to be obliged to climb Capitol Hill, but to find instead that, from the handsome Union Station, a short ride of about 10 minutes in the north bound cars brings one to the office door. Your correspondent found the owners "at home" who quickly accorded a cordial welcome, and forthwith conducted me through the new establishment. The building is of concrete, reinforced with steel rods by what is technically known as the unit system. The construction work was done by a Boston firm that makes a specialty of erecting concrete buildings. In plan the factory is 150 feet fronting on Broadway, and 200 feet deep, with a court in the center, 100 feet by 50 feet. It is 4 stories in height, flanked on the north by a 2-story stable, and a single story wing on the south, the entire structure being marked at each corner by a tower. The northwest and southeast towers contain in each a stairway and an elevator, and the southwest and northeast towers hold lavatories. The sanitary arrangements are particularly good. Hot and cold water is supplied throughout the building, and the factory lavatories are so arranged as to be easily washed out with a hose, insuring cleanliness to the last degree. The floor space, of which there is about 110,000 square feet, is well divided for the factory needs, separate rooms, formed by partitions judiciously placed, allowing precise division of work into departments of various kinds. On the first floor the court is roofed, a large skylight being placed in the center. The tin stamping department is located in this division, and it is fitted completely with all the machinery necessary, such as stamping and punching presses, drop presses, shears and other tools for sheet metal work. On this floor are also the departments for making station meters, large dry meters and meter provers, large spaces being set aside for storage of tin plate and other bulky merchandise. In the rear are the painting and shipping departments. A private switch runs up to a spacious platform affording the best of shipping facilities. On the second floor the east and south sides are devoted to brass shop and tool department, the north side to storerooms and the nickel plating shops, the west to the offices and draughting room. The third floor is occupied by the departments given over to the making of diaphragms and small meter parts, and the inspecting, testing and proving departments. On the top floor the meters are assembled, and there also is the repairing shop. The factory is lighted by gas with the Rico, intense, inverted burners, which, having been tried in an experimental way, are proving a great success. Gas is also used for heating soldering coppers, and in fact, for every purpose or use to which it can be put in the heating line—the McDonald concern I imagine is one of the largest consumers on the books of the Albany Gas Company. Evidently, too, it favors local enterprise, for its power is purchased from the Albany Electric Illuminating Company—the gas and electric supply of Albany is really under one management. The offices, which are on the second floor, are convenient, orderly and handsome. The general office is beautifully furnished, perhaps the most striking feature of *l'entourage* being a commodious vault with steel fittings, having a bookkeeping inclosure of steel to match—all in tasteful harmony. There are two private offices, one of which (an inner sanctum, if I may so express it) is furnished and equipped in way and manner well inclined to appeal to the comfort and entertainment of the visiting gas men. Your correspondent could well be forgiven for lingering here a while, chatting with that clever gentleman, the senior McDonald, and enjoying the bouquet of a fine Havana, while listening to his concerted and interesting account of the establishment and history of that world-known house in the meter trade. Altogether our visit was a most enjoyable one, and we scarcely need remark it, but we so advise that their and our friends who have occasion to visit the Capitol City should pay a visit to the McDonald's workshops, there to be shown a complete factory—complete in every sense of the word. D.

THE AMERICAN GAS LIGHT JOURNAL

A. M. CALLENDER & CO.,
PROPRIETORS.

THOS. J. CUNNINGHAM,
ELBERT P. CALLENDER,
EDITORS.

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NEW ENGLAND ASSOCIATION OF GAS ENGINEERS.

NOTIFICATION RESPECTING ADVERTISING.

Orders for new advertising, or for changes in standing advertisements, to insure attention in the issue following their reception, must be in hand any time of Wednesday.

AGENTS:

New York—American News Co., 39 and 41 Chambers St.
Germany—Lemcke & Buechner, of New York.
England—Aug. Siegle, 30 Lime Street, London.

MONDAY, NOVEMBER 25, 1907.

The Market for Gas Securities.

The depression in Consolidated continues as an actual fact, as also does the fact that every indication from a business point of view makes for much higher prices in it. The output for the first half of November thus far showed a distinct gain over the corresponding half of 1906, and the gain on electric account is equally marked. There is nothing ahead that even tends to interfere with the progress of the Company for good on every account. Still, here are the figures for this morning—Friday: Bid, 83; asked, 84. Brooklyn Union is offered at 90, and Peoples, of Chicago, is offered at 73, whereas par would not be a figure out of the way, if value were the standard.

Washington (D. C.) sold off a trifle in the week, but 400 is cheap for it. The bond market is quiet, although odd lots are readily disposed of.

Gas Stocks.

Quotations by George W. Cless, Broker and Dealer in Gas Stocks.

16 WALL STREET, NEW YORK CITY.

NOVEMBER 25.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share.

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked.*
Consolidated	$73,177,000	100	83	83¼
Central Union Gas Co.—				
1st 5's, due 1972, J. & J.	4,000,000	1,000	92	97
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	..	105
Mutual	3,500,000	100	..	170
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	75	80
New York & Richmond Gas Co. (Staten Island)	1,500,000	100	37	43
1st Mtg. Gold Bds. 5 p.ct.	1,000,000	..	98	104
Northern Union—				
1st 5's, due 1927, J. & J.	1,150,000	1,000	90	96
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	100	105
Con. 5's, due 1945, J. & J.	1,500,000	..	97	101
Standard	5,000,000	100	70	100
Preferred	5,000,000	100	100	125
1st Mtg. 5's, due 1930, M. & N	1,500,000	1,000	100	105
The Brooklyn Union	15,000,000	1,000	80	90
1st Con. 5's, due 1948, M. & N	15,000,000	..		102
Yonkers	299,650	500	130	..
Out-of-Town Companies.				
Bay State	50,000,000	50	¼	⅜
" Income Bonds	2,000,000	1,000	..	75
Binghamton Gas Works	450,000	100	..	65
" 1st Mtg. 5's	500,000	1,000	95	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	52	55
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
" " Bonds, 5's	5,250,000	1,000	63	66
Capital, Sacramento	500,000	50	..	35
Bonds (6's)	150,000	1,000	..	..
Chicago Gas Co. Guaranteed Gold Bonds	7,650,000	1,000	104	106¾
Cincinnati Gas and Electric Co.	29,500,000	100	93	94
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	92	98
Columbus (O.) Gas Lt. & Heating Co	1,582,750	100	87	88
Preferred	3,026,500	100	107½	108
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	11,000,000	100	..	90
Mortgage, 6's	3,500,000	..	..	118
Chesapeake, 1st 6's	1,000,000	..	..	..
Equitable, 1st 6's	910,000	..	..	..
Consolidated, 1st 5's	1,490 000	..	..	112
Consolidated Gas Co. of N. J.	1,000,000	100	15	17
Con. Mtg. 5's	850,000	1,000	92	95
Bonds	75,000	..	..	100
Detroit City Gas Co	5,000,000	50	..	50
" Prior Lien 5's	4,618,000	1,000	..	98
Detroit Gas Co., 5's	351,000	1,000	75	80
" Inc. 5's	16,000	100	98½	100
Equitable Gas & Fuel Co., Chicago, Bonds	2,000,000	1,000	..	101
Essex and Hudson Gas Co.	6,500,000	..	39	40
Fort Wayne	2,000,000	..	..	..
" Bonds	2,000,000	..	55	..
Grand Rapids Gas Lt. Co. 1st Mtg. 5's	1,225,000	1,000	104¼	105
Hartford	750,000	25	190	200 e
Hudson County Gas Co., of New Jersey	10,500,000	..	100	105
Bonds, 5's	10,500,000	..	101	102½
Indianapolis	2,000,000	..	60	70
" Bonds, 5's	2,650,000	..	104¼	105
Jackson Gas Co	250,000	50	82	..
" 1st Mtg. 5's	220,000	1,000	97	100
Kansas City Gas Light Co., of Missouri	5,000,000	100	..	36
Bonds, 1st 5's	3,822,000	1,000	102	104
Laclede, St. Louis	10,000,000	100	..	100
Preferred	2,500,000	100	75	100
Bonds	10,000,000	1,000	104	104¼
Lafayette Gas Co., Ind.	1,000,000	100	..	60
Bonds	1,000,000	1,000	60	65
Louisville	2,570,000	50	143	145
Madison Gas & Elec. Co.				
" 1st Mtg. 6's	350,000	1,000	105	108¾
" 6 per cent. scrip, due 1910	100,000	25	60	60½
Massachusetts Gas Companies of Boston	25,000,000	100	45	45½
Preferred	25,000,000	100	78	78½
Montreal, Canada	2,000,000	100	218	218¾
Nashville Gas Lt. Co.	1,000,000	100	110	..
Newark, N. J., Con. Gas Co.	6,000,000	..	56	58
Bonds, 6's	6,000,000	..	137	138
New Haven	2,000,000	25	200	..
Peoples G. Lt. & Coke Co., Chicago	25,000,000	100	72¾	73
1st Mortgage	20,100,000	1,000	..	..
2d "	2,500,000	1,000	104	..
Rochester Gas & Elec. Co.	2,150,000	50	55	..
Preferred	2,150,000	50	118	..
Consolidated 5's	2,000,000	..	104½	105¼
San Francisco, Cal.	15,800,000	00	..	..
St. Joseph Gas Co. 1st Mtg. 5's	751,000	1,000	92	..
St. Paul Gas Light Co	1,500,000	100	45	47
1st Mortgage 6's	850,000	1,000	115	116
Extension, 6's	600,000	1,000	112½	115
General Mortgage, 5's	2,465,000	1,000	96¼	..
Syracuse, N. Y.	1,975,000	100	50	55
Bonds	2,047 000	1,000	102	..
Washington, D. C	2,600,000	20	385	387½
1st Mortgage 6's	600,000	..	..	..
Western, Milwaukee	4,000,000	..	..	..
Wilmington, Del.	600,000	50	200	..

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DIVIDEND NOTICE.

OFFICE OF THE AMERICAN GAS COMPANY,
222 S. THIRD ST., Philadelphia, Pa., Nov 19, 1907.

The Board of Directors of The American Gas Company has this day declared a semi-annual dividend of 3 per cent., or $3 per share, on the capital stock of the Company, payable Dec. 2d, 1907, to stockholders of record on Nov. 22d, 1907, at 3 P.M. Transfer books close Nov. 22, 1907, and re-open Dec. 2, 1907. Checks will be mailed.

1694-2 WALTER GODLEY, Treasurer.

Estimates furnished for the erection of complete gas works or the extension and modernizing of old works. All work warranted. Both water gas and coal gas.

EMPIRE GAS IMPROVEMENT & CONSTRUCTION COMPANY,
1628-tf 49 Wall Street, New York.

Position Wanted

By young married man, age 33. Ten years' experience as foreman of fitters, able to handle men, and thoroughly understands all appliances, house piping, meter complaints, etc. Can give excellent references as to ability and character.

Address, "E. F. W.,"
1694-1 Care this Journal.

Position Wanted

As Manager of Gas or Gas and Electric Properties Combined.

Wide experience. Desire city 15,000 to 40,000, anywhere. Address,

1693-2 "O. K.," care this Journal.

Position Wanted.

Young man, 27 years old and married, practically raised in gas business, wants position as superintendent or manager of gas company. At present employed as superintendent in town of 12,000, in West.

1692-3 Address, "X. Y.," care this Journal.

Position Wanted

By young man of 27, as superintendent of new business, or appliances, or both, with a gas company of push and energy. Understands and *does* advertising that pulls business, having charge of four dailies and two weeklies (will mail samples on request). Has handled solicitors, has original ideas, and is well up in the industrial business. At present new business superintendent of Saginaw and Bay City Gas Companies. For references, write at once to S. E. Wolff, General Manager, or H. C. Morris, Assistant General Manager.

Address, E. J. L'ESPERANCE,
1694-1 Saginaw City Gas Co., Saginaw, Mich.

Position Wanted.

A successful and competent young gas man would like to communicate with some gas company likely to need a gas manager in the near future. Is thoroughly up to date on all new business methods and distribution systems, and both coal and water gas manufacture. Will be open for a position between December 15, 1907 and January 1, 1908. Can show a very good record. Address, "D. K.,"

1693-8 Care this Journal.

WANTED, FOR WESTERN TERRITORY,

A Traveling Salesman for a Leading Line of Gas Stoves and Ranges already Established.

Must be thoroughly competent, of extended experience and good, established connections among gas companies. A permanent and good paying position to the right man. Address, giving age, experience and references,

"C. S. M.,"
1689-tf Care this Journal.

WANTED,

Four Second-Hand Purifiers,

Size, 10 by 10 or 10 by 12. Address, stating price,

"F. R. A.,"
1690-tf Care this Journal.

FOR SALE,

One 48-Inch Station Meter Complete.

It has not been connected since rebuilt 9 months ago by Helme & McIlhenny, Philadelphia, Pa. We refer you to them.

STANDARD GAS AND ELECTRIC CO.,
1686-tf RALEIGH, N. C.

FOR SALE.

Two No. 8 Root Exhausters, direct connection with 9-inch by 12-inch Ver. N. Y. S. Co. engine, by-pass on same bedplate; 20-inch connection.

Three No. 6 Root Blowers, direct connection with 9-inch by 12-inch Ver. N. Y. S. Co. engine, on same bedplate; 20-inch connection.

Three P. W. Mackenzie Exhausters, belt drive; 20-inch connection.

Ten 20-Inch Angle Gas Valves.

Two ¼-Inch Sheet Steel Riveted Tanks, 11 feet 6 inches long, 5 feet wide, 11 feet high.

100 Feet 20-Inch Steel Riveted Main.

Sixty B., H. & Co. Self-Sealing Mouthpieces, 7-inch stand and bridge pipes.

This apparatus can be seen at any time at

BROOKLYN UNION GAS COMPANY,
1692-3 Nassau Works, 556 Kent av., Brooklyn, N. Y.

Do You Wish to Know

what size of pipe to use to convey any quantity of gas, any distance, with any loss of pressure and any initial or final pressure? Then use

Cox's Gas Flow Computer,

as it gives this information accurately at sight, without mental effort. No calculations needed. Saves time, money and mistakes.

Price, 6.5 x 8 inches, in cloth case, $2.50.
For sale by
A. M. Callender & Co., 42 Pine St., N. Y.

STANDARD REDUCTION FACTORS for GASES,
By Helon Brooks MacFarland, B.S., M.M.E.
Price, $1.50. *For Sale by*
A. M. Callender & Co., 42 Pine St., New York City.

ELECTRIC GAS LIGHTING.

How to install electric gas igniting apparatus, including the jump spark and multiple systems for use in houses, churches, theaters, halls, schools, stores or any large building. Also, the care and selection of suitable batteries, wiring and repairs.

By H. S. NORRIE.

Price, 50 cents. Orders may be sent to

A. M. CALLENDER & CO., 42 PINE ST., N. Y. CITY.

GAS PROPERTIES FOR SALE.

TWO MODERN PLANTS SERVING THREE TOWNS OF 35,000 POPULATION AND LOCATED IN THE EASTERN STATES.

FOR PARTICULARS, ADDRESS

"OWNERS,"
Care this Journal.

GAS AND ELECTRIC PROPERTY IN PENNSYLVANIA FOR SALE,

Population, 18,000; price, five times gross income; franchises contain most liberal terms. For full information address

M. J. LOXLEY COMPANY,
LAND TITLE BUILDING, PHILADELPHIA, PA.

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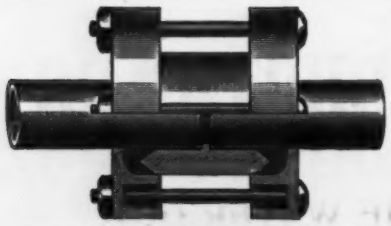

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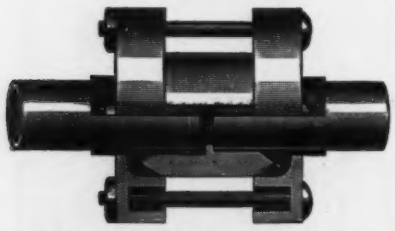

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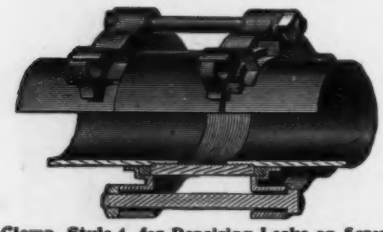

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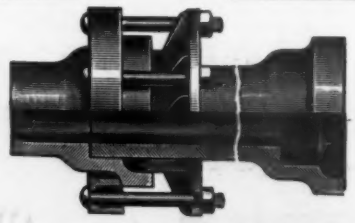

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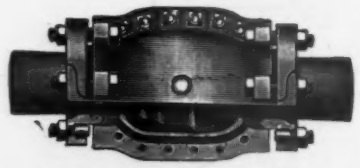

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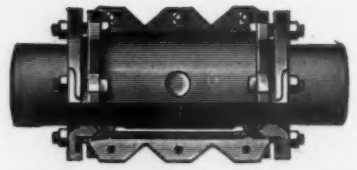

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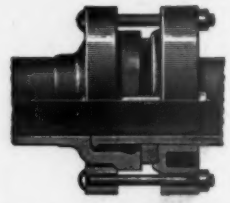

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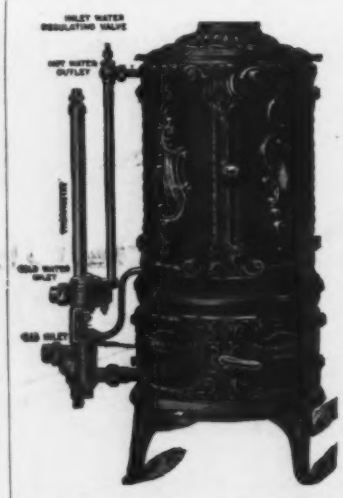

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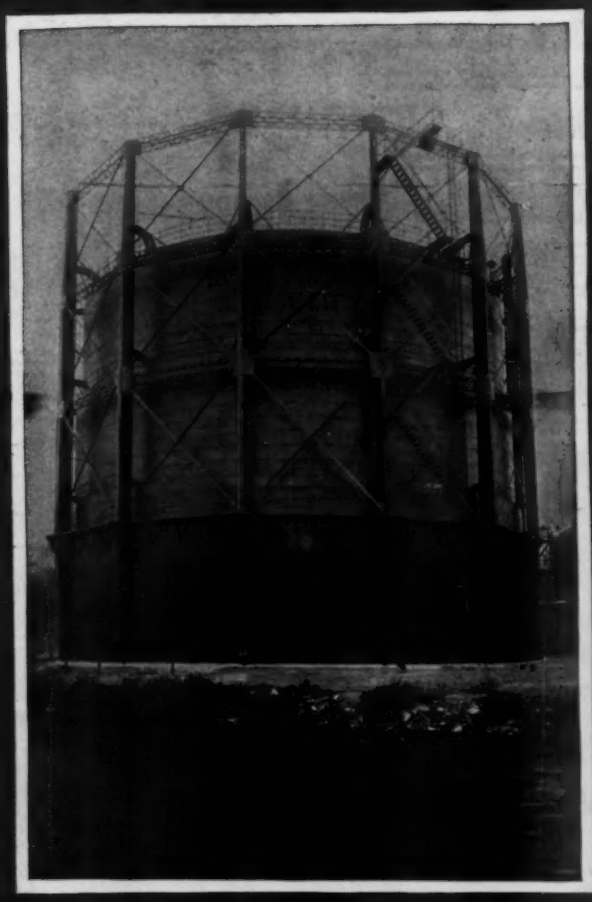

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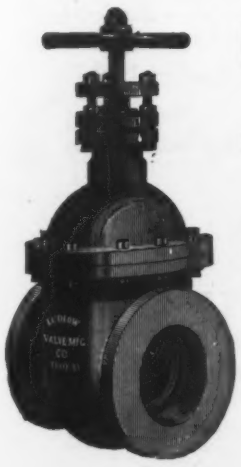

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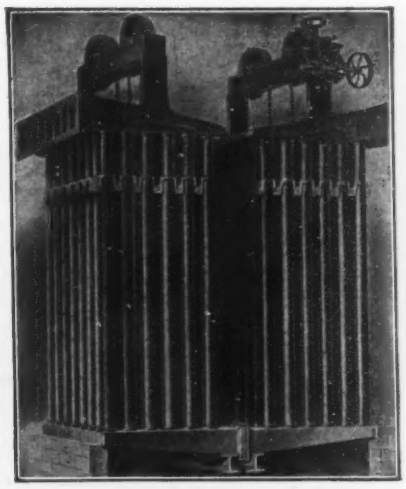

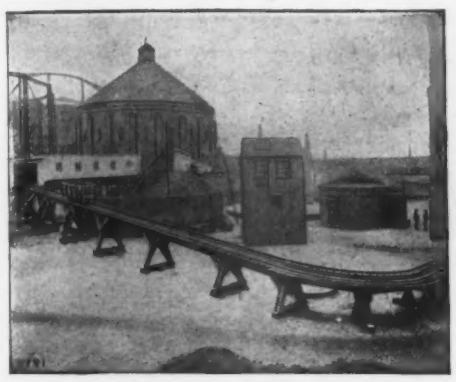

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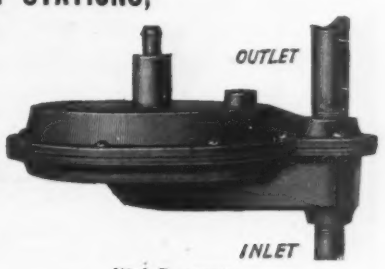

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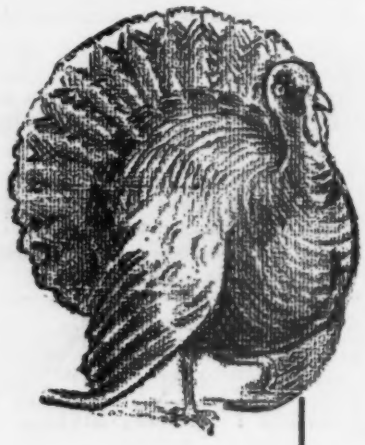

WHEREAS, The Goddess of Plenty has turned the cornucopia down and showered upon the people of a free land manifold blessings, marking a year of hitherto unknown prosperity and happiness, and

WHEREAS, The H. Mueller Mfg. Co. has been signally fortunate in having extended its business into new fields while increasing the volume in the old, therefore, be it

RESOLVED, That while a nation of grateful people pauses a moment to return thanks for the munificence of an unselfish and impartial Providence, the H. Mueller Mfg. Co. joins heartily and sincerely in the spirit of the autumnal festal ceremony and takes the auspicious occasion to extend thanks to friends and patrons whose liberal use of the company's products has made for it the most prosperous year of its half century in business.

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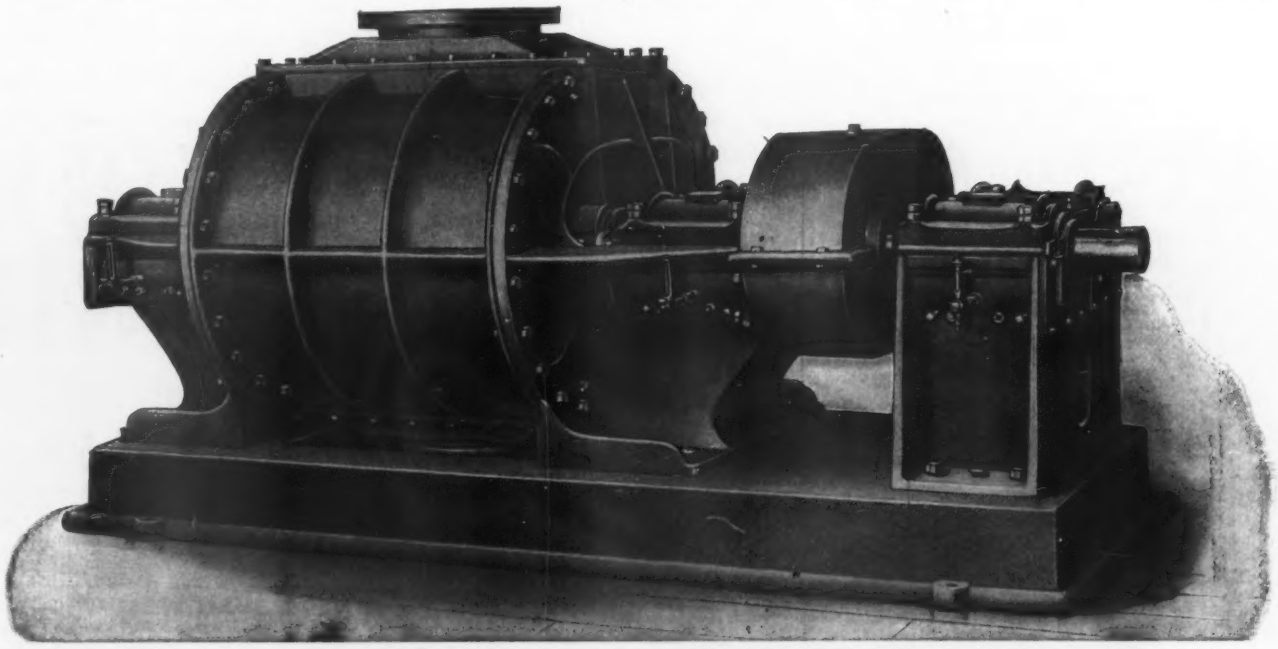

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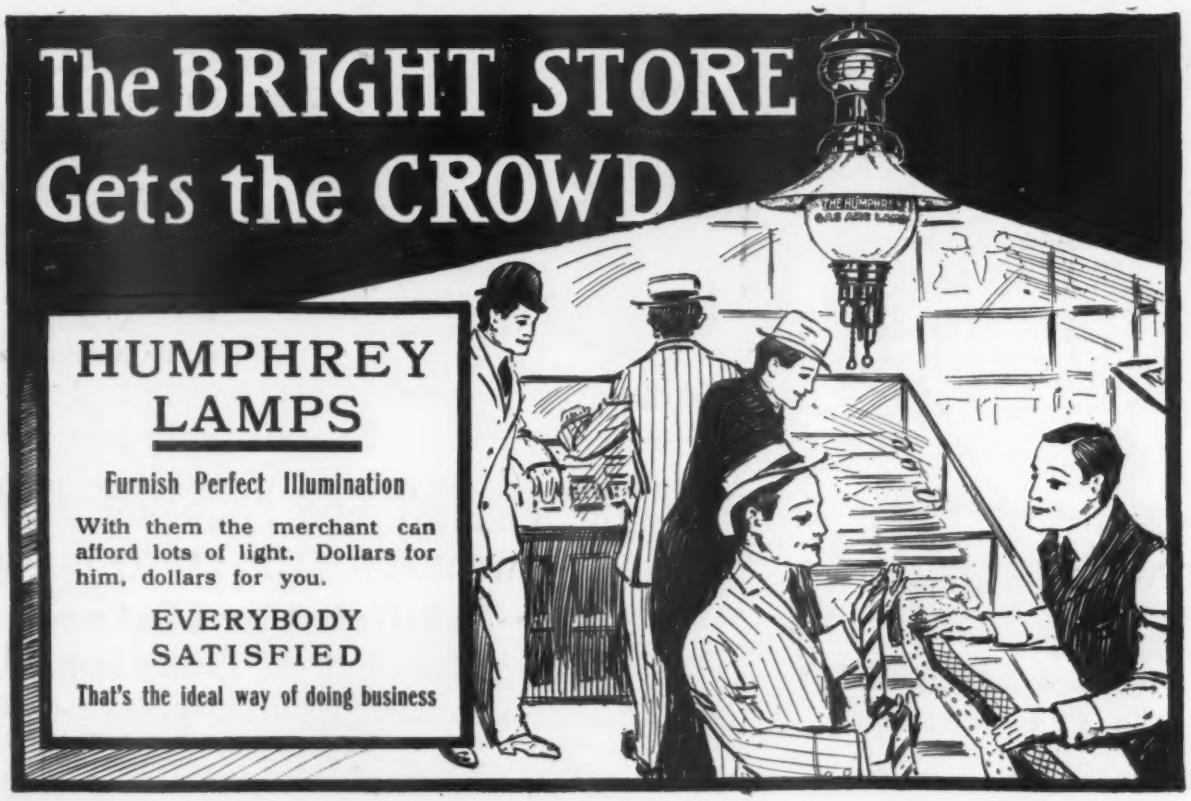

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WITHOUT ANY ESCAPE OF GAS.

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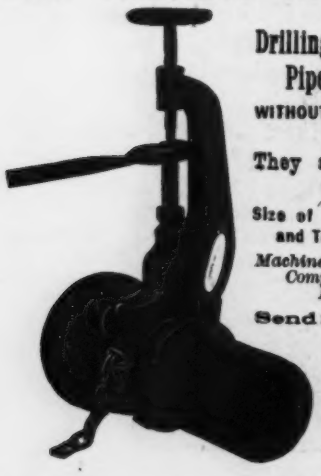

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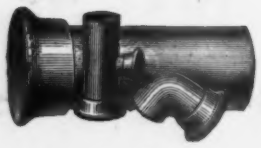

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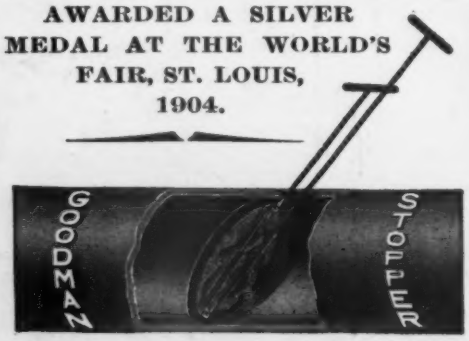

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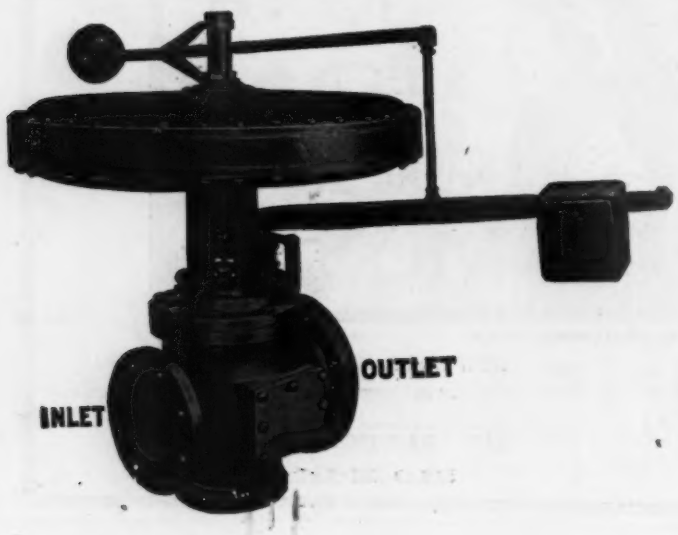

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Our DUPLEX SENSITIVE GOVERNOR, with Automatic Cutoff for district service, will reduce high pressure gas to inches of water without variation.

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Photometrical and Experimental Apparatus.

PUBLIC LIGHTING TABLE.

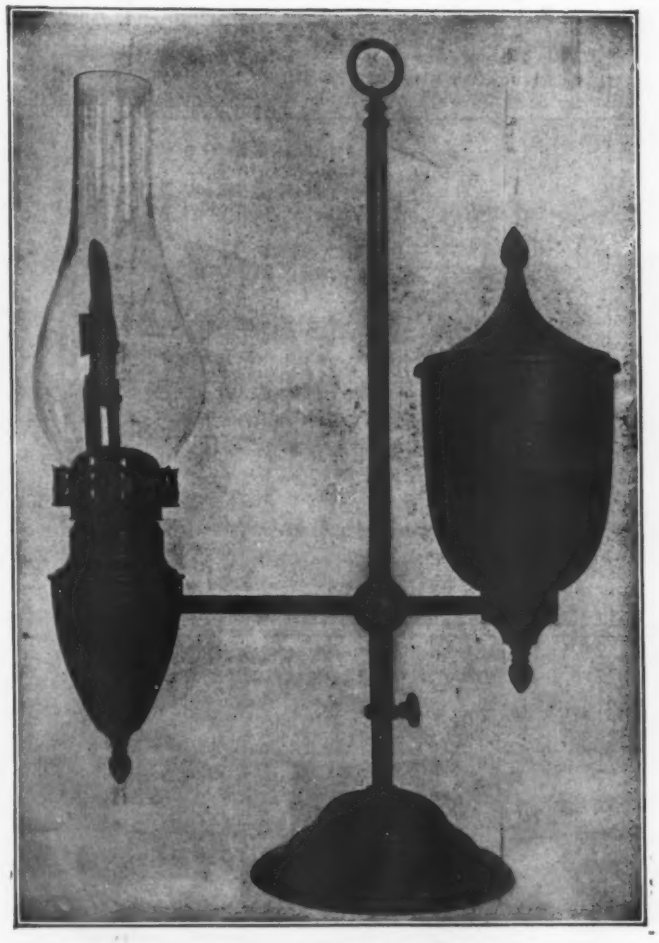
DECEMBER, 1907.

Day of Week.	Table No. 1. Following the Moon. Date.	Light.	Extinguish.
Sun.	1	5.00 PM	6.00 AM
Mon.	2	5.00	6.00
Tue.	3	5.00	6.00
Wed.	4	5.00 NM	6.00
Thu.	5	5.00	6.00
Fri.	6	5.00	6.00
Sat.	7	5.00	6.00
Sun.	8	5.00	6.10
Mon.	9	8.20	6.10
Tue.	10	9.30	6.10
Wed.	11	10 40 FQ	6.10
Thu.	12	11.50	6.10
Fri.	13	1.00 AM	6.10
Sat.	14	2.00	6.10
Sun	15	3.00	6 20
Mon.	16	4.00	6.20
Tue.	17	5.00	6.20
Wed.	18	No L.	No L.
Thu.	19	No L FM	No L.
Fri.	20	No L.	No L.
Sat.	21	5.10 PM	7.20 PM
Sun.	22	5.10	8.20
Mon.	23	5.10	9.10
Tue.	24	5.10	10.10
Wed.	25	5.10	11.10
Thu.	26	5.10	12.10 AM
Fri.	27	5.10 LQ	1.10
Sat.	28	5.10	2.10
Sun.	29	5.10	3.20
Mon.	30	5.10	4.30
Tue.	31	5.10	6.20

TOTAL HOURS DURING 1907.

By Table No. 1.

	Hrs.Min.
January	211.10
February	193.40
March	182.10
April	167.00
May	157.00
June	145.30
July	151.50
August	162.30
September	175.30
October	202.40
November	209.30
December	231.50
Total, yr.	2190.20



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10-Candle Power.

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This lamp is a perfect substitute for the 10-candle Pentane Lamp hitherto used, and has the following advantages:

1st. It uses Standard Kerosene Oil (Pratt's Astral Oil or equivalent).

2d. It is remarkably steady. Will burn 24 hours continuously with less than 2 per cent. variation.

3d. It is much less dangerous than Pentane, which is a kind of gasolene.

4th. It is not easily affected by air currents in the photometer room.

5th. Since the lamp may burn continuously, the candle power of gas may be taken at any moment, if necessary. This insures steady illuminating power without waste of carburetting material.

6th. The first cost of the lamp brings it within the reach of even small gas works.

7th. Costs much less to maintain than a Pentane lamp or sperm candles doing the same service.

8th. Is not affected by the weather.

PUBLIC LIGHTING TABLE.

DECEMBER, 1907.

Day of Week.	Table No. 2. New York City. All Night Lighting. Date.	Light.	Extinguish.
		P. M.	A.M.
Sun.	1	4.20	6.10
Mon.	2	4.20	6.10
Tue.	3	4 20	6.15
Wed.	4	4 20	6 15
Thu.	5	4 20	6.15
Fri.	6	4.20	6.15
Sat.	7	4 20	6.15
Sun.	8	4.20	6.15
Mon.	9	4.20	6.15
Tue.	10	4.20	6.20
Wed.	11	4.20	6.20
Thu.	12	4.20	6.20
Fri.	13	4.20	6.20
Sat.	14	4.20	6.20
Sun.	15	4.20	6.20
Mon.	16	4.20	6.20
Tue.	17	4.20	6.20
Wed.	18	4.20	6.20
Thu.	19	4.20	6.20
Fri.	20	4.20	6.20
Sat.	21	4 20	6.20
Sun.	22	4.20	6.20
Mon.	23	4.20	6.20
Tue.	24	4.20	6.25
Wed.	25	4.20	6.25
Thu.	26	4.20	6.25
Fri.	27	4 20	6.25
Sat.	28	4.20	6.25
Sun.	29	4.20	6.25
Mon.	30	4.20	6.25
Tue.	31	4.20	6 25

TOTAL HOURS DURING 1907.

By Table No. 2.

	Hrs.Min.
January	423.20
February	355.25
March	355.35
April	298.50
May	264.50
June	234.25
July	243.45
August	280.25
September	321.15
October	374.30
November	401.40
December	433.45
Total, yr.	3987.45

NEW YORK, 318 West 42d Street.
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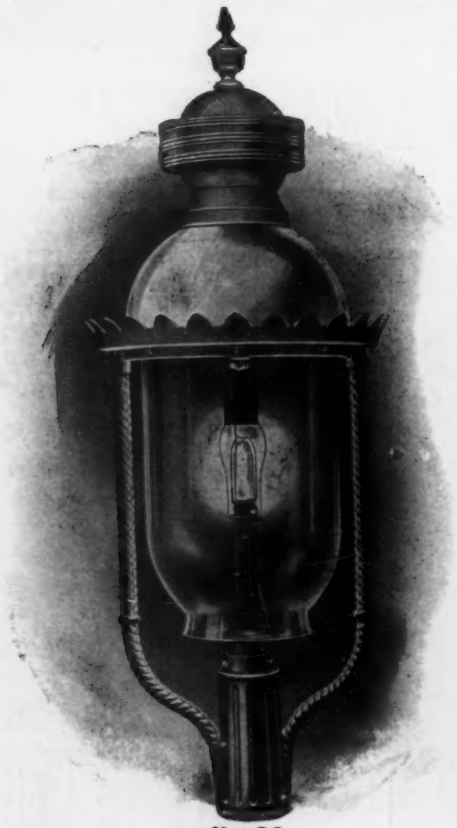

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IT LIGHTS THE STREET.

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Nashua, N. H.
Augusta, Me. (2d contract).
Everett, Mass.
Jenkintown, Pa. (2d contract).
Coney Island, N. Y.
Mexico, Mo.
Jacksonville, Fla.
Syracuse, N. Y. (2d contract).
Atlanta, Ga. (3d contract).
Holyoke, Mass.
Peoria, Ills.
Schnectady, N. Y. (2d contract).
Danbury, Conn.
Galveston, Tex. (2d contract).
Quebec, Canada.
Indianapolis, Ind. (2d contract).
Bessemer, Ala.
Waterbury, Conn. (5th contract).
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TOTAL SETS INSTALLED TO JULY 1, 1907, ... 34
TOTAL SETS TO DATE, ... 668
TOTAL DAILY CAPACITY, ... 541,655,000 cu. ft.

Tar Extractors for Carburetted Water Gas.
Photometrical Apparatus.
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Straight Standpipe System for Coal Gas Retorts.
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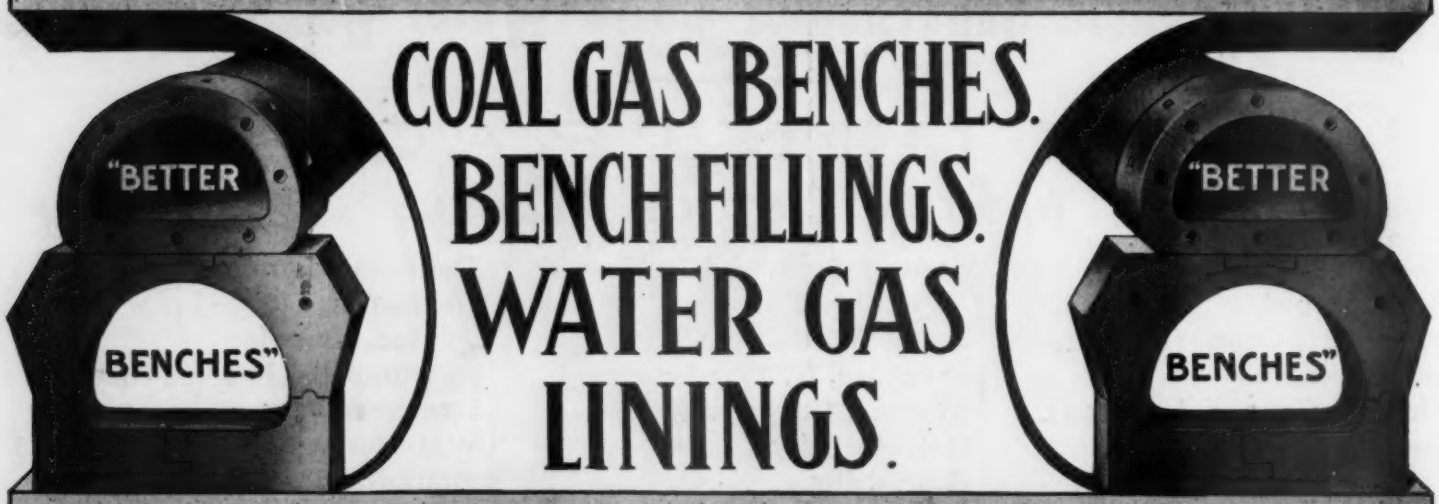

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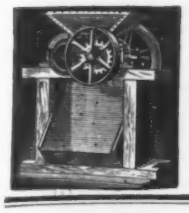

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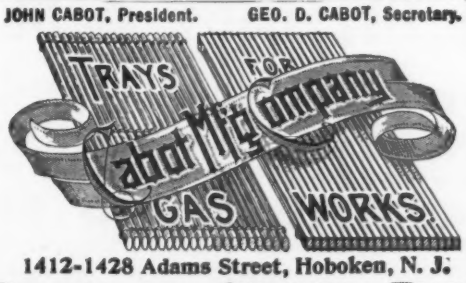

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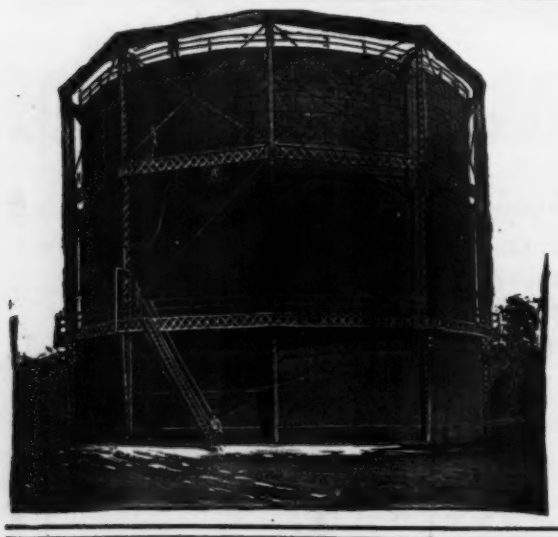

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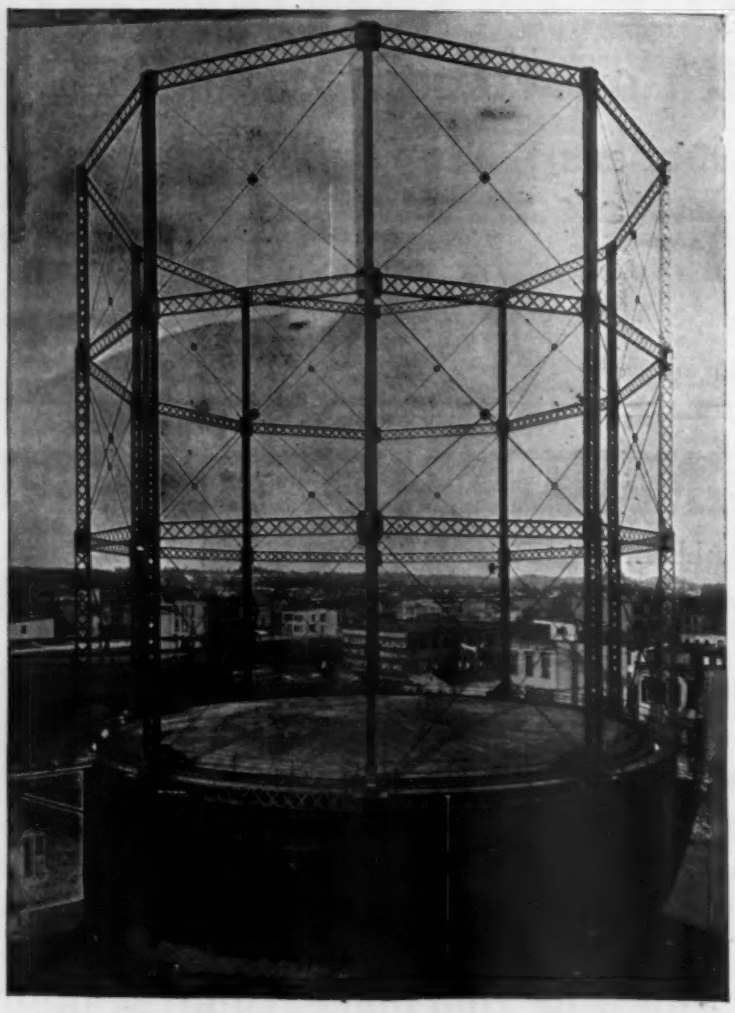

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